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ONTARIO MINING STATISTICS

A PRELIMINARY COMPENDIUM



Ministry of
Natural
Resources

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ONTARIO MINING STATISTICS

A PRELIMINARY COMPENDIUM

Prepared by

Mineral Resources Branch
Ministry of Natural Resources

and

Centre for Resource Studies

OCTOBER 1979



Ministry of
Natural
Resources

Hon. James A. C. Auld
Minister
Dr. J. K. Reynolds
Deputy Minister

PREFACE

Origin and Purpose

Over the past several years the staff at the Mineral Resources Branch of the Ontario Ministry of Natural Resources has developed a major program of mineral policy and mineral economics research and published a number of background papers on mineral policy. In the course of this work, it became apparent that research was complicated by the unorganized character of much mining industry data. As a result, the Ministry decided upon a joint project with the Centre for Resource Studies at Queen's University to begin organizing and analyzing available data series on the Ontario mining industry. The Centre for Resource Studies worked under contract to the Ministry which is funding the entire project.

The project was conceived as a two-stage undertaking. The first stage was to focus on the study of time series data for a limited number of economic variables, and to prepare a catalogue of provincial and federal legislation pertaining to the industry in the province during the post-1945 period. The second stage is intended to cast the net more broadly: to organize other series from documentary sources not covered by the first stage, and to construct new series, to the extent possible, from primary sources.

This two-part volume contains the output of the first stage. Part I contains time series data for several economic variables. Part II sets out a chronicle of federal and provincial legislation relating to the mining industry, as a rudimentary tool for identifying changes in mining policy.

The purpose of this volume is, in the first instance, to provide a data base to facilitate research on mineral policy at the Mineral Resources Branch. In addition, it is intended to have wider use as a research tool in industry and in universities, and to be accessible to the public at large.

The Data

In this volume the data on the Ontario mining industry are grouped under four headings encompassing four major aspects of mining industry activity:

- i) the volume and value of production of each metallic mineral that is, or has been, produced in the province;
- ii) input data for gold mining, iron mining, other metal mining, and smelting and refining;
- iii) indicators of exploration activity;
- iv) revenue collected from the industry by the provincial government.

Although the number of time series presented here is admittedly limited, they contain two features not available elsewhere. First, for the first time, long time series of annual data on the provincial mining industry are brought together in a single source document. Some previous publications do contain long series, but no single source has presented a complete set.

Pagination

The statistics compendium and the chronicle of legislation have been paginated in such a way as to permit additions and revisions without major changes in numbering. Both parts have been divided into sections, identified in the table of contents.

Under the heading 'Volume and Value of Production', statistics for each metallic mineral or group are contained in separate sections, arranged alphabetically by metal name. This provides convenient access for most users interested in the production of individual metallic minerals. To facilitate use by researchers interested in a whole class of minerals, such as precious metals, we provide a separate classification list of metallic minerals produced in Ontario.

Within each section, pages are numbered consecutively. The last page of each section is identified by an asterisk (*) placed against the page number. Each page bears the date of issue. Future revisions or updates will be issued in conformance with the established scheme.

Format and Interpretation of the Statistics

The statistical part is organized under four headings, each prefaced by a documentation of sources and a commentary on features of the data. In the sections on production, a note on methods and other features of the data precedes the tables for each mineral.

Another feature of the tables deserves particular comment. There are instances where a data cell is either blank or contains a zero. A zero signifies no production. A blank may, however, have different meanings. It may indicate either that the figure is not available or, in the case of the production series, that the series has been truncated. The meaning for any given instance should be clear from the context or the accompanying notes.

Bibliographic references are identified at the beginning of the notes for each of the four principal groups of data. In preparing many of the series, several annual publications of the same report or periodical were used. Since in such cases the linking of each observation to its precise source would have been unwieldy and unnecessary, only the general bibliographic details used for a series are cited. In the production section, when the identical sources were used for the data for any given year for several minerals, the bibliographic references are contained in the notes covering the major data group.

Finally, each of the series is self-contained. There are no cross-references.

All data were put on computer cards, and a program was developed to present the data in tabular format. Computerization also facilitated the conversion of mineral production data to SI units from the English measures used in the source documents.

Organization and Procedures

This study was carried out under the joint direction of the Project Manager, Dr. G. Anders of the Mineral Resources Branch of the Ontario Ministry of Natural Resources and the Project Director, Dr. C.G. Miller of the Centre for Resource Studies. Primary responsibility for conducting the basic research and preparation of the compendium rested with Dr. C.H. Pye of the Centre for Resource Studies. Mr. M.N.A. Hinton, along with Mr. Pye, undertook basic documentary research on the data series. Miss C.E. McMurray prepared the tables for the legislative log. Professor M.C. Urquhart of Queen's University was the Consulting Editor. An Advisory Committee included Mr. G.T. Ballantyne, Falconbridge Nickel Mines Limited; Dr. W.R. Scott, Queen's University; and Mr. I.A. Hodson, Queen's University.

CLASSIFICATION OF METALLIC MINERALS PRODUCED
IN ONTARIO

PRECIOUS METALS

Gold
Silver
Platinum Group Metals
 Iridium
 Palladium
 Platinum
 Rhodium
 Ruthenium

BASE METALS

Antimony
Beryllium
Bismuth
Cadmium
Calcium
Cerium
Chromite
Cobalt
Copper
Lead
Magnesium
Molybdenum
Nickel
Selenium
Tellurium
Tin
Tungsten
Zinc

URANIUM GROUP METALS

Uranium
Thorium
Yttrium

IRON ORE

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4. Bismuth
5. Cadmium
6. Calcium
7. Cerium
8. Chromite
9. Cobalt
10. Copper
11. Gold
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12. Iron Ore
13. Lead
14. Magnesium
15. Molybdenum
16. Nickel
Palladium (See Platinum Group Metals)
17. Platinum Group Metals
Rhodium (See Platinum Group Metals)
- Ruthenium (See Platinum Group Metals)
18. Selenium
19. Silver
20. Tellurium
21. Thorium
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23. Tungsten
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PROVINCIAL MINING REVENUE

Section

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PART II. A CHRONICLE OF PROVINCIAL AND FEDERAL LEGISLATION SINCE 1945 PERTAINING TO THE ONTARIO MINING INDUSTRY

Section

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28. Metal Mining
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GENERAL NOTES ON PRODUCTION STATISTICS

THE DATA SERIES

Twenty-nine different metallic minerals have been produced in the province of Ontario, at one time or another during the twentieth century. This section records the annual volume and value of production for each of these minerals.

SOURCES

The primary data sources for the data series on volume and value of production were from three areas:

- i) the Statistical Files of the Information and Statistics Section (formerly Mineral Economics Section), Mineral Resources Branch, Division of Mines, Ontario Ministry of Natural Resources;
- ii) publications of the Ontario Ministry of Natural Resources;
- iii) Statistics Canada publications.

The Statistical Files contain a handwritten record of annual mining data. This information is obtained from the Ontario mining industry through the 'Annual Census of Mines, Quarries and Sand Pits' and the 'Report of Mineral Industry Operations, Company Officials, Incorporation, and Capitalization.' The Annual Census has been a joint responsibility of the Ministry and Statistics Canada since 1921. The Ministry¹ also conducted an independent census covering the period 1891 to 1920. The Report has continued to be an independent responsibility of the Ministry.

1. In 1891 the Bureau of Mines was born out of the Department of Crown Lands. Since then, the Ministry responsible for overseeing the provincial mining industry has gone under the following titles: Department of Lands, Forests and Mines; Department of Mines; Department of Mines and Northern Affairs; and Ministry of Natural Resources. The designation Ministry of Natural Resources (MNR) is used to cover historically all the ministries responsible for collecting mining industry data. Similarly, the designation Statistics Canada (SC) also encompasses the data-collecting activities of the Dominion Bureau of Statistics and the Geological Survey of Canada. In 1979, the responsibility for collecting and publishing mineral production data was transferred from Statistics Canada to the Department of Energy, Mines and Resources.

Statistical material, based on the data in the Statistical Files, is published on a regular basis by the Ministry. Annual Reports have been issued since the creation of the Bureau of Mines in 1891. In 1968 a series of Annual Statistical Reports was instituted.

Comprehensive annual data on the Ontario mineral industry have been produced by federal government agencies since 1886. Annual Reports were issued by the Geological Survey of Canada for the period 1886 to 1905. The Mines Branch of the federal Department of Mines undertook the responsibilities of publication for the years 1906 to 1920. Since then, Statistics Canada has been responsible for the publication of mineral industry statistics. Prior to 1949, most published mineral industry data appeared under the title Annual Report on the Mineral Production of Canada. The direct descendant of these Annual Reports is the General Review of the Mineral Industries (26-201) and companion publications in Statistics Canada's catalogue number 26-200 series.

VERIFICATION PROCEDURES

The Statistical Files provided, as far as possible, the foundation data for each of the metallic mineral production series. These data were checked against the published government sources. In the case of Ontario, the two sources are the Annual Reports and the Annual Statistical Reports published by the Ministry of Natural Resources. From among the sources published by federal government agencies, four were used primarily:

- i) Dominion Bureau of Statistics, Annual Report on the Mineral Production of Canada, 1938 (Ottawa, 1940);
- ii) Dominion Bureau of Statistics, Canadian Mineral Statistics, 1886-1956; Mining Events, 1604-1956, Reference Paper No. 58 (Ottawa, 1957);
- iii) Statistics Canada, General Review of the Mineral Industries: Mines, Quarries and Oil Wells, 1975 (26-201);
- iv) Energy, Mines and Resources, Mineral Production of Canada, by Province, 1931-1975, by A.E. Spoerri (March 1976).

Together, these sources provide continuous, though not necessarily internally consistent, series for the several metallic minerals from the 1880s to the 1970s. For individual minerals,

inconsistencies between the Statistical Files and the published data sources are identified in the notes pertaining to the individual mineral production series. These introductory notes also describe in a general manner the methods used by the Ontario and federal data-gathering agencies. Attention is drawn to the early evolution of data collection methods, and the adoption of common approaches in the 1920s by the Ontario Department of Mines and the Dominion Bureau of Statistics in organizing mineral-industry production data for the province of Ontario.

DEVELOPMENT OF DATA METHODOLOGIES

Problems of internal inconsistencies within and between data series for any given mineral derive from changes in the extent of industry coverage and in methods of estimating and valuing mineral production. This was especially characteristic of the period before 1925. However, from the inception of systematic mineral-industry data collection in the late nineteenth century, the Ontario and federal mineral-statistics agencies sought to develop reliable and accurate data. These efforts culminated in two significant developments in the 1920s. The first was the acceptance in 1921 of a common questionnaire. The second was the reaching of agreement in 1925 on methods to be used in valuing metallic mineral production.

A Common Questionnaire

The adoption in 1921 of a common questionnaire marked the conclusion of a long period in which the federal and Ontario agencies pursued virtually independent data-collection activities. This period featured the continuing efforts of both agencies to improve coverage of the population of mining operators within their respective jurisdictions.

The first methodical survey of mineral production for Canada was undertaken for the year 1886 by the Geological Survey of Canada. The statistical report for that year was based on 665 schedules, of some 2,000 mailed out, and 185 replies to 400 letters, together with supplementary information provided by the Department of Mines of British Columbia and the Chief Inspector of Mines in Nova Scotia (Sessional Papers of Canada, vol. 12, no. 12 (1888), S.P. no. 14, part III, pp. 27-28). The mailing list of mining operators was continually revised and improved. In 1890, 5,500 circulars and reminders, and 650 letters were sent to mine operators (Sessional Papers of Canada, vol. 24, no. 14 (1891), S.P. no. 17A, pp. 42-44). In 1917, the mailing list consisted of some 3,500 smelter, mine and quarry operators (Summary Report of the Mines Branch, 1917, p. 138).

In addition to circularizing mine operators, the Geological Survey mounted a program of field work in 1886. This involved staff visits to mining sites to gain first-hand knowledge of mining operations throughout the country.

The field visits were considered to be indispensable to the compilation of complete and intelligible records of mineral production in the country. They were '... necessary to enable the compiler of statistics to properly understand and coordinate them. The majority of mining operators are willing to furnish very complete information concerning their operations to a personal applicant, while few will take much trouble to answer correspondence' (Summary Report of the Mines Branch, 1908, p. 32).

The canvassing of mine operators was not the only (although vital) source of data on mineral production. A concise statement of early procedures used in collecting and verifying mineral statistics is contained in the first Annual Report on the Mineral Production of Canada (1906) published by the Department of Mines: 'The figures ... are based as far as possible upon the returns obtained direct from the various operators, or from official data, and the totals are checked by comparison with railway shipments, exports, and all other sources of information' (Sessional Papers of Canada, vol. 42, no. 13 (1907-8), S.P. no. 26b, p. 6). Similar collection and validation procedures were carried on by the Dominion Bureau of Statistics, with an underlying purpose of ensuring continuity in mineral production data series (Annual Report o[n] the Mineral Production of Canada, 1921, p. 3).

Although acting independently of the Geological Survey of Canada (and the federal Department of Mines), Ontario adopted analogous procedures for collecting data on mineral production. The formal, systematic collection of production statistics for the province by an Ontario government data-gathering agency dates from 1891 with the establishment of the Bureau of Mines. At the outset, it was made clear that the collection of mineral statistics was to be an important activity of the Bureau (First Report of the Bureau of Mines, 1891, p. 5). Further, the Bureau was empowered by the Mines Act of 1892 to gather data on the quantity and value of mineral production (S.O., 55 Vict., c.9, s.60).

Initially there were problems in obtaining full industry coverage, especially in procuring a list of the companies engaged in quarrying and in production of structural materials. By contrast, the metal-mining companies were easily identified, since they were few in number and there was little problem in getting returns from them (First Report of the Bureau of Mines, 1891, p. 5). However, in the Second Report of the Bureau of Mines, 1892, the general comment is

made that '... the returns received have not been altogether satisfactory but doubtless they will improve when the requirements of the Act are better understood and the value of statistics come to be better appreciated by mining men' (p. 7). By the end of the decade, a quantum improvement in data collection had been realized. The Tenth Report of the Bureau of Mines (1900) states that '... on the whole, the miners and producers of minerals make prompt and satisfactory returns of their output' (p. 13).

Two comments are pertinent. First, systematic data collection dates from 1886 at the earliest, and from 1891 in the records of the Ontario Bureau of Mines. Consequently, it is inappropriate to present data on mineral production extending back in time before these years. The validity of that data is doubtful. Second, satisfactory production data were realized only some years after formal data-collecting activities had been initiated. Although no quantification is possible from the documentary evidence, it does appear that the Ontario Bureau of Mines, which took pride in its diligence, had succeeded in obtaining by 1900 rather full and satisfactory returns, at least for metallic mineral production.

Although the federal and Ontario mineral statistics agencies pursued essentially independent data-collecting activities until 1921, there was an early mutual recognition that a common system would be advantageous (Summary Report of the Mines Branch, 1907-8, p. 65; Sixteenth Annual Report of the Bureau of Mines, 1907, p. 5). At least as far back as 1907, there was a modicum of cooperation in collecting mining industry statistics, and a process of consultation to coordinate the work. Eventually, conferences between the Dominion Bureau of Statistics and the Ontario Department of Mines '... resulted in a plan whereby the final data for the year 1921 were collected on joint forms, thus preventing the overlapping and duplication of work' (Annual Report on the Mineral Production of Canada, 1921, p. 5). The joint collection of data reduced the paperwork for the mine operator and enhanced the comparability of federal and provincial figures.

Valuation Methods

The second major development was the conclusion of an agreement in 1925 on the application of uniform methods for valuing metallic mineral production. Prior to this agreement, the methodologies were fundamentally different. The federal Department of Mines valued metallic mineral output (based on estimated smelter recovery), whether refined in Canada or not, on the basis of the average price of the metal in some recognized market, usually New York (Annual Report of the Division of Mineral Resources and

and Statistics on the Mineral Production of Canada, 1909, pp. 7, 8). The Dominion Bureau of Statistics adopted the same valuation methodology.

A note on the methodology contained in the Annual Report on the Mineral Production of Canada, 1922 (p. 12) is worth reproducing here. This excerpt summarizes the method employed by the Dominion Bureau of Statistics in valuing metallic minerals, and also indicates its continuity with the practice of the Mines Branch of the federal Department of Mines and, before that, the Geological Survey of Canada.

For statistical and comparative purposes, it has always been customary to determine the value of the metals, copper, gold, silver, lead, nickel, and zinc as far as possible on the basis of the quantities of metals recovered from Canadian ores smelted during the year, either in Canada or abroad, and to compute the value of this production in each case at the average price of the refined metal in a recognized market ... The New York market was used in the case of the principal metals since most of the sales of Canadian products are made on that market.

Ontario used a quite different approach. From the establishment of the Bureau of Mines in 1891, the valuation of metallic mineral production was based on product selling values at the mine or smelter (Tenth Report of the Bureau of Mines, 1900, p. 13).

The case of nickel illustrates the difference in valuation method:

The [federal agency] values the nickel contents of the mattes produced by the Sudbury furnaces at the average price of refined nickel in the ore, while the [provincial] figures represent the value of the nickel in the form of matte and at the point of production, as given by the producers (Eighteenth Report of the Ontario Bureau of Mines, 1909, p. 7).

Similar differences in approach were applied to other metals, especially copper. The outstanding result was that federal estimates of the value of production for nickel and copper in Ontario were consistently higher than the estimates of the Bureau of Mines. Although between 1910 and 1925 there was a decided convergence in the value of production series for each of these metallic minerals, differences persisted.

The considerable differences between the estimates of value of production, and the consequent potential for confusion, were long recognized by both the Ontario and federal agencies responsible for reporting mineral statistics. For several years, both statistics bureaux presented, in their annual reports, comparative estimates of the value of metallic mineral production using both methodologies. Finally, in 1925, the Ontario Department of Mines and the Dominion Bureau of Statistics convoked a conference on the methods of computing mineral statistics (Annual Report on the Mineral Production of Canada, 1926, pp. 374-376). From this date, the estimates of metallic mineral volume and value of production by the two agencies have generally been in harmony. Significant differences became the exception rather than the norm. Thus, in essence, consistent metallic mineral volume estimates and value of production estimates exist for the province of Ontario dating from 1925.

DATA SOURCES OF THE ONTARIO MINISTRY

Not only are there differences between the data in the Statistical Files of the Ministry and Statistics Canada publications, but there are also differences between mineral production data in the Statistical Files and in the Annual Reports published by the Ministry. The discrepancies between the files and published data, both for volume and for value of production, apply principally to copper, nickel, gold, silver, and iron ore. There does not appear to be any systematic pattern to the differences, which are largely confined to the years prior to 1945. Since then, the data generally agree for all metallic mineral series.

Why these sources within the Ministry should yield incompatible estimates is a puzzle. The conundrum is all the more baffling since the federal and Ontario agencies had substantially resolved their methodological differences in 1925. One possible answer is that the data published in the Annual Reports are revised figures, while the data in the Statistical Files are preliminary. If this were the whole reason, it is to be expected that the data published in the Ontario and Statistics Canada reports would coincide, but this does not always occur. The remaining inconsistencies have not yet been resolved. It has, therefore, not been possible to choose between these Ministry sources in terms of their comparative quality. However, the data series from the Statistical Files have been chosen for reproduction in this compendium, in the tables on the volume and value of production.

FORMAT AND INTERPRETATION OF DATA TABLES

Because it is often impossible to choose between the Statistical Files and Statistics Canada data in terms of quality, the production data from the two sources are given separately where they conflict. For any given mineral, the Statistical Files data series are given first and are labelled 'MNR Series'; the Statistics Canada data carry the label 'SC Series'. In all instances the full Statistical Files series is given, while frequently only a truncated Statistics Canada series is provided. Only that continuous portion of the Statistics Canada series containing differences from the Statistical Files data is presented. In each case, the remainder of the Statistics Canada series, not presented, is in agreement with the Statistical Files data. Where the sources for an entire series coincide, the table is labelled 'MNR and SC Series'.

In the mineral production tables, in order to provide unbroken series, the initial year for any mineral is generally that year from which there is a continuous record of production.

Each table contains three columns, exclusive of the date column. The first column gives volume of production in English measure; the second column the volume of production in SI (metric) units. The third column is the value of production in dollars. The metric conversion factors, taken from The Mining Association of Canada, Metric Practice Guide for the Canadian Mining and Metallurgical Industries (February 1978), are as follows:

- i) Troy ounces $\times 31.1034768$ = grams
- ii) Pounds $\times 0.45359237$ = kilograms
- iii) Short tons $\times 0.90718474$ = tonnes (metric tons).

These conversion factors are used by the Ontario Mineral Resources Branch, by Statistics Canada, and by the Department of Energy, Mines and Resources.

Although newspapers and trade publications generally give base metal figures in tonnes, kilograms rather than tonnes have been used here to facilitate direct comparison with the data published by Statistics Canada. The production data in the tables can, of course, be readily converted from kilograms to tonnes by inspection, with the application of the appropriate scalar (1/1000).

In order to facilitate understanding the data within any series, and for making comparisons between series for any given mineral, the tables for each mineral are prefaced with a detailed description of the underlying methods used for estimating the volume and value of production. In addition, commentary on special features of a series is made, when appropriate, in footnotes to tables.

ANTIMONY

METHODS

Only two years of production are reported, and these by Statistics Canada only. Production consists of recoverable metal contained in export shipments of silver-lead-bismuth bullion obtained in the treatment of ores from the cobalt-producing district of the province. The shipments are valued at the average New York price for the fine metal. (D.B.S., Annual Report on the Mineral Production of Canada, 1938, p.32.)

ANTIMONY: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1925-1926

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1925	1 751	794	206
1926	1 596	723	281

BERYLLIUM**METHOD**

There is only one year of reported production of beryllium (1950). Quantity produced is not available. The value of the shipment of ores as reported by the producer is \$7,882. (Annual Report of the Ontario Department of Mines, 60 (1951), p. 34.)

BISMUTH

METHODS

Volume of Production

The first year of production was 1923. The Ontario Department of Mines based estimates on recoveries from bullion produced from silver mines for 1923 and 1924. No valuation was reported for these years. After 1924, the Ontario and Statistics Canada production and valuation methods agree.

Production estimates include:

- 1924-58: recoverable bismuth metal in silver-lead-bismuth bullion shipped to foreign smelters;
- 1959-74: bismuth content of silver-lead-bismuth bullion shipped to smelters, Canadian or foreign, and bismuth content of impure metal shipped;
- 1975: recoverable bismuth (metal paid for) in bullion and concentrates shipped to smelters;
- 1929-75: also, bismuth metal produced at Canadian smelters;
- 1950-58: also, recoverable metal in ores exported.

Value of Production

- 1924-58: recoverable bismuth metal in bullion shipments valued at an arbitrary price;
- 1959-74: bismuth content of bullion shipments and bismuth content of impure metal shipped valued as reported by producer;
- 1975: recoverable bismuth in bullion and concentrates shipped to smelters, valued at the average New York price for bismuth metal in Canadian dollars;
- 1929-48: bismuth metal produced at Canadian smelters valued at the average New York price for bismuth metal;
- 1949-58: bismuth metal produced at Canadian smelters valued at the average New York price for bismuth metal, but converted to Canadian dollars;
- 1959-75: bismuth metal produced at Canadian smelters valued as reported by the producer;
- 1950-58: recoverable metal in ores exported valued at the average New York price in Canadian dollars.

Methods were not published for 1951 to 1958, and the 1950 definitions are assumed to apply to these years.

DATA SELECTION

Data from the Statistical Files are reproduced in the table following. The Ministry of Natural Resources and Statistics Canada data are generally in agreement, with differences appearing in only four years. Statistics Canada reports no production figures for 1923, and reports a value of production for 1924 of \$27,913 and \$18,566 for 1925. The quantities for these two years are identical to the figures in the Statistical Files. For 1951, the Statistics Canada volume and value of production figures are 15,000 pounds and \$35,400 respectively. These figures are likely preliminary and were not subsequently adjusted.

BISMUTH: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1923-1975

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1923	18 878	8 562	48 139
1924	12 863	5 834	16 079
1925	19 667	8 920	18 596
1926	6 440	2 921	6 440
1927	2 072	939	1 003
1928	14 002	6 351	5 067
1929	27 446	12 449	23 413
1930	12 732	5 775	6 366
1931	7 331	3 325	3 532
1932	16 798	7 619	7 289
1933	7 580	3 438	3 731
1934	7 552	3 425	3 444
1935	7 079	3 210	6 796
1936	3 552	1 611	3 516
1937	5 711	2 590	5 654
1938	9 516	4 316	9 754
1939	0	0	0
1940	17 789	8 068	24 620
1941	7 499	3 401	10 379
1942	2 333	1 058	3 219
1943	0	0	0
1944	0	0	0
1945	0	0	0
1946	0	0	0
1947	0	0	0
1948	5 362	2 432	10 724
1949	0	0	0
1950	0	0	0
1951	15 763	7 149	34 048
1952	0	0	0
1953	0	0	0
1954	0	0	0
1955	0	0	0
1956	6 980	3 166	10 586
1957	14 214	6 447	21 372
1958	18 581	8 428	26 779
1959	31 457	14 268	37 748
1960	37 835	17 161	45 402
1961	19 923	9 036	22 388
1962	0	0	0
1963	65	29	146
1964	541	245	703
1965	3 883	1 761	9 600

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1966	6 312	2 863	15 881
1967	4 272	1 937	18 412
1968	0	0	0
1969	2 269	1 029	11 209
1970	13 701	6 214	85 905
1971	20 910	9 484	113 541
1972	22 304	10 116	80 071
1973	4 077	1 849	20 059
1974	16 169	7 334	132 553
1975	5 378	2 439	42 325

CADMIUM

METHODS

Cadmium is associated with zinc deposits. Ontario figures for production of cadmium include recoverable cadmium in zinc concentrates exported from the province, and cadmium metal recovered at the Texasgulf refinery in Timmins, which went into operation in 1972. All cadmium products are valued at the average New York price converted into Canadian dollars.

These methods apply to the entire period 1964-75, and have been used by the provincial and federal statistics agencies to produce identical volume and value of production series.

CADMIUM: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1964-1975

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1964	187 609	85 098	607 853
1965	209 724	95 129	583 033
1966	217 237	98 537	560 471
1967	2 024 006	918 073	5 667 217
1968	2 732 729	1 239 545	7 788 278
1969	3 075 505	1 395 025	10 825 778
1970	2 351 277	1 066 521	8 370 546
1971	2 414 008	1 094 975	4 683 176
1972	2 575 274	1 168 124	6 515 443
1973	2 764 697	1 254 045	10 063 497
1974	1 680 019	762 043	6 681 436
1975	1 468 335	666 025	5 011 427

CALCIUM

METHODS

The data for calcium production date from 1945. Chromasco Ltd. (formerly Dominion Magnesium Ltd.) has been the only producer of calcium in Ontario (and in Canada). The firm recovers calcium metal from lime at its plant in Haley, Ontario.

The volume of production, as derived by both the Ontario Ministry and Statistics Canada, includes calcium metal plus the calcium content of alloys. For 1945-58, production is valued at the average New York price expressed in Canadian funds, and for 1959-75 as reported by the producer. (The methods were not published for 1951-58, and it is assumed that the 1950 valuation method applies to these years.)

The volume and value of production series in the Ontario Statistical Files and in the Statistics Canada sources are identical.

CALCIUM: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1945-1975

Year	Volume of Production ^a		Value of Production ^a (Dollars)
	(Pounds)	(Kilograms)	
1945	22 720	10 305	19 312
1946	53 548	24 288	68 720
1947	602 665	273 364	642 607
1948	895 203	406 057	1 723 266
1949	520 609	236 144	1 041 551
1950			
1951			
1952			
1953			
1954			
1955			
1956	394 900	179 123	515 305
1957	221 225	100 345	282 378
1958	25 227	11 442	31 256
1959	67 429	30 585	76 409
1960	134 801	61 144	159 241
1961	99 355	45 066	100 881
1962	123 511	56 023	124 412
1963	98 673	44 757	117 247
1964	138 357	62 757	151 694
1965	159 434	72 318	152 848
1966	249 179	113 025	245 125
1967	543 692	246 614	535 509
1968	468 512	212 513	450 946
1969	942 682	427 593	953 522
1970	443 557	201 194	374 476
1971	355 247	161 137	291 504
1972	469 378	212 906	337 609
1973	651 921	295 706	489 813
1974	1 049 587	476 084	915 487
1975	944 213	428 287	1 004 674

^aData for 1950 to 1955 are confidential.

CERIUM

METHODS

Cerium (a rare earth metal) was produced in only one year. In 1955, fifteen tons of material were shipped to the United States for experimental purposes. The value, as reported by the shipper, was \$988. (Annual Report of the Ontario Department of Mines, 65 (1956), pp. 2, 23.)

CHROMITE

METHODS

Production is the tonnage of ores and concentrates shipped and valued as reported by the producer. Only four years of production are reported.

DATA SELECTION

Statistics Canada reports production of 378 tons for 1936. Otherwise, data from Statistics Canada and the Statistical Files agree.

CHROMITE: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1934-1937

Year	Volume of Production		Value of Production (Dollars)
	(Short Tons)	(Tonnes)	
1934	40	36	480
1935	798	723	9 576
1936	338	306	5 070
1937	4 062	3 684	39 964

COBALT

METHODS

Volume of Production

Statistics Canada production figures include:

- 1904-10: cobalt content of ore shipments;
- 1911-21: cobalt content of all smelter products sold or shipped;
- 1922-23: cobalt content of products produced;
- 1924-75: cobalt content of all smelter products sold or shipped by Ontario smelters plus the cobalt content of ores, concentrates and residues shipped for export.

Production estimates of the Ontario Ministry of Natural Resources are based on the following:

- 1904: cobalt content of shipments of ores and concentrates from the Sudbury area; assay cobalt content of shipments of silver-cobalt ores;
- 1905-13: cobalt content of shipments of silver-cobalt ores;
- 1914: metallic content of cobalt oxide shipped;
- 1915-23: shipments of recoveries of cobalt metal, cobalt oxide and the cobalt content of residues;
- 1946: cobalt recovered at the Deloro Smelting and Refining Company;
- 1947-48: cobalt recovered at the Deloro Smelting and Refining Company plus the cobalt content of ore shipped to destinations other than Deloro and the production of cobalt oxides at the Port Colborne plant of Inco;
- 1924-45,
- 1949-75: methods identical to Statistics Canada.

Value of Production

Statistics Canada valuation methods are as follows:

- 1904-15: the sum reported by the producer;
- 1916-17,
- 1921-23: the average New York price for cobalt;
- 1918-20: a nominal price of \$2.50 per pound (New York price 'not available');
- 1924-25: the selling value at the plant as reported by the producing companies;
- 1926-39: the net amount received by the shipper;

- 1942: the gross amount received by the shipper plus the value of ores exported valued according to grade and at agreed prices per pound;
- 1940-41,
- 1943-49: the gross amount received by the shipper;
- 1950-75: cobalt content of all smelter products sold or shipped valued at the total sales value reported by the smelters; cobalt contained in ores, concentrates and residues exported valued at the gross value received by shippers (1950-74), and at the average Port Colborne price (1975).

Among the discontinuities in the valuation procedures, it should also be noted that 'prior to 1935 the net selling value of products was considered to be the amount received by the shipper. Beginning with 1935 . . . the net value of sales [is computed] by deducting the cost of fuel, electricity and process supplies from the amount received for products sold. Therefore, this figure is not comparable with similar figures in reports for years prior to 1935.' (D.B.S., Annual Report on the Mineral Production of Canada, 1936, p. 4.)

The Ontario Ministry of Natural Resources uses the sum reported by the shipper from 1904 to 1923, and follows Statistics Canada methods from 1924 to 1975. For the years 1946-48, it has been noted above that the Ministry's methods departed from those employed by Statistics Canada in estimating the quantity of production. Whether different methods were used by Ontario to estimate value could not be determined since the method of valuation was not reported for those years.

DATA SELECTION

In addition to the data series from the Statistical Files, the Statistics Canada volume and value of production data are reproduced for 1904-25, 1936, and 1946-48. The two sets of data are in harmony for all of the other years.

COBALT: VOLUME AND VALUE OF PRODUCTION,
MNR SERIES, 1904-1975

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1904	58 000	26 308	36 620
1905	236 000	107 047	100 000
1906	642 000	291 206	80 704
1907	1 478 000	670 409	92 751
1908	2 448 000	1 110 394	111 118
1909	3 066 000	1 390 714	94 965
1910	2 196 000	996 088	54 699
1911	1 706 000	773 828	170 890
1912	1 872 000	849 124	315 781
1913	1 188 526	539 106	420 386
1914	643 988	292 108	546 749
1915	426 641	193 521	379 657
1916	1 020 244	462 774	762 327
1917	815 098	369 722	1 122 779
1918	881 931	400 037	1 615 130
1919	747 986	339 280	1 009 479
1920	736 932	334 266	1 603 736
1921	204 098	92 577	502 370
1922	507 764	230 317	1 080 873
1923	1 476 697	669 818	1 803 872
1924	1 279 777	580 497	1 662 526
1925	1 466 262	665 085	2 328 517
1926	664 778	301 538	1 136 014
1927	880 590	399 428	1 764 534
1928	954 860	433 117	1 671 900
1929	929 415	421 575	1 801 915
1930	694 163	314 867	1 144 007
1931	521 051	236 344	651 179
1932	490 631	222 546	587 957
1933	466 702	211 692	597 752
1934	594 671	269 738	592 497
1935	681 419	309 086	512 705
1936	887 592	402 604	803 580
1937	507 064	230 000	848 145
1938	459 226	208 301	790 913
1939	732 561	332 284	1 213 454
1940	794 359	360 315	1 235 220
1941	263 257	119 411	255 904
1942	83 871	38 043	88 444
1943	175 961	79 814	191 407
1944	36 283	16 457	34 106
1945	109 123	49 497	90 026

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1946	75 848	34 404	64 471
1947	578 403	262 359	955 917
1948	1 545 744	701 137	2 624 410
1949	619 065	280 803	952 469
1950	583 806	264 809	964 003
1951	951 607	431 641	1 999 612
1952	1 421 923	644 973	3 226 903
1953	1 602 545	726 902	4 013 077
1954	2 252 965	1 021 927	5 912 997
1955	3 296 270	1 495 162	8 510 314
1956	3 392 543	1 538 831	8 781 626
1957	3 750 596	1 701 241	7 541 258
1958	2 436 064	1 104 980	4 866 767
1959	2 835 684	1 286 244	5 414 246
1960	3 258 401	1 477 985	6 312 921
1961	2 884 420	1 308 350	4 309 912
1962	2 649 193	1 201 653	4 765 808
1963	2 156 732	978 277	4 409 262
1964	2 212 016	1 003 353	4 259 215
1965	2 620 810	1 188 779	5 511 436
1966	2 684 235	1 217 548	5 464 495
1967	2 929 470	1 328 785	5 967 044
1968	3 221 025	1 461 032	6 957 851
1969	2 553 583	1 158 285	5 421 046
1970	3 692 529	1 674 902	8 211 391
1971	3 511 207	1 592 656	7 650 337
1972	2 593 814	1 176 534	6 387 560
1973	2 528 297	1 146 816	6 913 957
1974	2 775 392	1 258 896	8 141 841
1975	2 399 759	1 088 512	10 277 852

COBALT: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1904-1948

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1904	32 000	14 514	19 960
1905	236 000	107 047	100 000
1906	642 000	291 206	80 704
1907	1 478 000	670 409	104 426
1908	2 448 000	1 110 394	111 118
1909	3 066 000	1 390 714	94 965
1910	2 196 000	996 088	54 699
1911	1 704 000	772 921	170 890
1912	1 868 000	847 310	314 381
1913	1 642 000	744 798	420 386
1914	889 027	403 255	571 710
1915	504 212	228 706	536 268
1916	840 536	381 260	924 590
1917	1 079 572	489 685	1 727 315
1918	1 347 544	611 235	3 368 860
1919	530 371	240 572	1 325 928
1920	546 023	247 671	1 365 058
1921	251 986	114 298	755 958
1922	569 960	258 529	1 852 370
1923	888 061	402 817	2 530 974
1924	948 704	430 324	1 682 395
1925	1 116 492	506 432	2 328 517
1926 ^a			
1927			
1928			
1929			
1930			
1931			
1932			
1933			
1934			
1935			
1936	887 591	402 604	804 676
1937			
1938			
1939			
1940			
1941			
1942			
1943			
1944			
1945			

^aFigures for 1926-35 and 1937-45 are identical to MNR Series.

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1946	73 900	33 520	70 215
1947	572 673	259 760	875 644
1948	1 544 852	700 733	2 029 178

COPPER

METHODS

Volume of Production

Inclusion of the copper content of nickel-copper matte exported is common to both Ministry of Natural Resources and Statistics Canada production estimates over the entire period 1891-1975. Statistics Canada specifies that no allowance is made for losses in the treatment of the matte, since practically all of the copper is recovered in the refining process. (D.B.S., General Review of the Mining Industry, 1950 (26-201), p. A-37; S.C., General Review of the Mineral Industries, 1975 (26-201), p. 65.) The notes on methods for computing copper production in D.B.S., Annual Report on the Mineral Production of Canada, 1926 (p. 374) indicate that the consistent practice was not to make any allowance for losses in treating the matte. Additional components in the Statistics Canada series include:

1891-1928: copper in cobalt-nickel and gold ores exported (with deductions of 26 pounds per ton of concentrates for copper in concentrates from gold ores, and 20 pounds per ton of concentrates for copper in cobalt-nickel ores) and copper paid for in concentrates from silver-cobalt ores exported;
 1926-28: copper content of blister (converter) copper made at Port Colborne;
 1929-75: recoverable copper in ores and concentrates exported and copper content of blister copper at Ontario smelters.

Recoverable copper in ores and concentrates exported is computed as total copper content, less an allowance for smelter losses of ten pounds of copper per ton of concentrates. (D.B.S., General Review of the Mining Industry, 1950 (26-201), p. A-37.)

It should also be noted that estimates of copper production include the copper content of blister copper produced at Ontario smelters rather than production of refined copper metals. This is because secondary copper (made from scrap) is also used in refining. To avoid having to take secondary copper into account in estimating copper production, figures for blister copper are used. (General Review of the Mining Industry, 1950, p. A-37; S.C., General Review of the Mineral Industries, 1974 (26-201), p. 46.)

The production series of the Ontario Ministry of Natural Resources include, in addition to the copper content of nickel-copper matte exported:

1891-1917: copper content of shipments of non-Sudbury area ores;

1917-25-
 1930-31: estimated copper recovered by U.S. refineries;
 1918-25: blister copper and electrolytic copper recovered respectively at refineries in Port Colborne, Ontario (since 1918) and in Deschênes, Quebec (1920-24);
 1930-31: metal content of Port Colborne blister copper, and copper contained in Ontario copper ores treated at the Noranda smelter, in lead-silver-copper concentrates exported, and (1930 only) in miscellaneous ores;
 1926-29,
 1932-75: recoverable copper in ores and concentrates exported and copper content of blister copper made at Ontario smelters - the same as Statistics Canada methods.

Value of Production

Statistics Canada value of production figures are based on:

1891-1925: all copper products valued at the average New York price for electrolytic copper;
 1926-75: copper in nickel-copper matte valued at an arbitrary figure (which varies from year to year) agreed upon by the Ontario Ministry of Natural Resources and Statistics Canada;
 1926-28: copper in cobalt-nickel and gold ores exported valued at the average New York price for electrolytic copper and copper paid for in concentrates from silver-cobalt ores shipped valued at sales value as reported by the shippers, and copper content of converter copper made at Port Colborne valued pro rata according to the income from sales of copper during the year, as reported by the International Nickel Company of Canada;
 1929-31,
 1945-58: recoverable copper in ores and concentrates exported valued at the average New York price for electrolytic copper (and translated into Canadian dollars for all years except 1929-30);
 1932-44: recoverable copper in ores and concentrates exported valued at the average London price in Canadian dollars;
 1959-75: recoverable copper in ores and concentrates exported valued at the average Montreal price;

1929: copper content of blister copper produced at Ontario smelters valued at the average New York price for electrolytic copper;

1930-31: copper content of blister copper produced at Ontario smelters valued pro rata according to the income from sales of copper;

1932-48: copper content of blister copper produced at Ontario smelters valued at the average London price in Canadian funds;

1949-58: copper content of blister copper produced at Ontario smelters valued at the average New York price in Canadian funds;

1959-75: copper content of blister copper produced at Ontario smelters valued at the average Montreal price.

In valuing the copper in nickel-copper matte, the arbitrary price '... is usually about three cents under the Canadian price for the metal and represents as close an approximation as possible to a fair value for the copper in the matte after allowing a margin for treatment of this matte in refineries outside Canada.' (D.B.S. General Review of the Mining Industry, 1950 (26-201), p. A-37; S.C., General Review of the Mineral Industries, 1973 (26-201), p. 46.)

Statistics Canada methods were not published for 1947 and 1948 and from 1951 to 1958. It is assumed that the 1945-46 methods applied in 1947 and 1948, and that the 1950 methods were applicable from 1951 to 1958.

The valuation methods used by the Ontario Ministry of Natural Resources are as follows:

1891-1916: all products valued as reported by the shipper;

1917-25: copper in nickel-copper matte exported valued at an arbitrary price set by the Ministry (Department of Mines);

1926-75: copper in nickel-copper matte exported valued at an arbitrary price agreed upon between Statistics Canada and the Ministry of Natural Resources;

1917-25: copper recovered by U.S. refineries valued at the average New York price;

1918-25: blister and electrolytic copper valued as reported by the producer;

1926-29: copper in ores exported and blister copper produced at Ontario smelters valued (as per Statistics Canada methods) at the average New York price for electrolytic copper;

1930-31: metal content of Port Colborne converter copper valued at the average New York price in 1930 for that portion refined outside Ontario, and the remainder for 1930 and all output in

1931 valued at the sum reported by the producer (valuation of copper contained in ores and concentrates shipped in 1930-31 not specified);

1932-75: recoverable copper in ores and concentrates exported and blister copper produced at Ontario smelters valued as in Statistics Canada methods.

DATA SELECTION

For the years before 1926, the Dominion Bureau of Statistics estimate for the value of production was consistently and often considerably higher than the estimates produced by the Ontario Department of Mines. This was due mainly to the different methods used in valuing the copper in nickel-copper matte exported for refining. The Bureau used the price for refined metal, whereas the Department of Mines valued the copper content on the basis of its processed form (in matte) when shipped out of the province. In 1925, when the federal and Ontario statistics agencies agreed to use the same methods, the method which the Ontario Department of Mines had been using was adopted, and as a result the differences in the value of production series were largely resolved by 1926. Sporadic and small differences continued to exist until 1952. Since then, the two series have agreed.

The volume of production presents less of a problem. There are differences between the series, again notably before 1926, and small differences continued to appear in about half of the years from 1926 to 1952. After 1952 the series are identical.

The volume and value of production series from the Statistical Files of the Ontario Ministry are produced for the period 1891 to 1975. The Statistics Canada figures are presented for the period up to 1952.

COPPER: VOLUME AND VALUE OF PRODUCTION,
MNR SERIES, 1891-1975

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)		(Pounds)	(Kilograms)	
1891	4 024 000	1 825 255	241 440	287 914 078	130 595 628	26 898 920
1892	3 872 000	1 756 309	232 135	313 266 041	142 095 085	40 564 887
1893	2 862 000	1 298 181	115 200	309 030 106	140 173 698	30 405 500
1894	5 496 000	2 492 943	195 750	328 429 665	148 973 190	32 637 305
1895	4 731 000	2 145 945	160 913	347 931 013	157 818 852	34 742 229
1896	3 736 000	1 694 621	130 660	333 829 767	151 422 635	33 192 644
1897	5 500 000	2 494 758	200 067	308 282 415	139 834 551	30 625 404
1898	8 373 500	3 798 155	268 080	277 840 533	126 026 345	32 194 369
1899	5 668 000	2 570 961	176 237	285 307 278	129 413 204	33 845 632
1900	6 728 000	3 051 769	319 681	239 457 242	108 615 977	29 772 270
1901	8 444 000	3 830 133	550 806	179 430 423	81 388 270	22 503 827
1902	8 456 000	3 835 577	644 845	227 873 343	103 361 609	46 019 294
1903	14 462 000	6 559 852	716 806	240 687 191	109 173 873	53 366 733
1904	4 326 000	1 962 240	297 126	226 085 423	102 550 622	44 658 786
1905	9 050 000	4 105 010	688 993	234 420 544	106 331 370	54 411 033
1906	12 064 000	5 472 138	960 813	257 616 806	116 853 017	70 861 788
1907	13 750 000	6 236 895	1 045 511	250 715 175	113 722 490	70 981 618
1908	15 122 000	6 859 223	1 071 140	261 164 653	118 462 293	77 587 440
1909	15 865 264	7 196 362	1 127 016	281 552 361	127 710 002	81 343 536
1910	19 260 000	8 736 189	1 374 103	292 813 108	132 817 791	107 251 943
1911	18 042 000	8 183 713	1 281 591	312 541 701	141 766 530	128 552 450
1912	22 252 000	10 093 337	1 584 310	343 406 269	155 766 463	98 488 877
1913	25 882 868	11 740 271	1 840 492	284 069 476	128 851 746	71 267 895
1914	28 904 814	13 111 003	2 081 332	376 544 371	170 797 653	110 547 037
1915	39 255 484	17 805 988	3 925 118	412 544 528	187 127 050	123 750 235
1916	45 016 875	20 419 311	8 332 253	423 293 547	192 002 723	122 421 860
1917	42 927 755	19 471 702	7 961 193	377 990 690	171 453 692	116 347 723
1918	47 113 920	21 370 514	8 474 448	357 919 536	162 349 570	112 048 454
1919	24 546 071	11 133 910	3 609 687	395 833 331	179 546 978	131 458 795
1920	30 227 016	13 710 743	3 965 695	432 544 119	196 198 712	161 665 138
1921	10 503 179	4 764 161	1 101 730	405 951 287	184 136 406	181 375 552
1922	19 917 563	9 034 454	2 067 365	552 291 827	250 515 358	261 814 899
1923	28 108 707	12 749 895	3 456 073	581 236 227	263 644 317	278 313 194
1924	34 580 646	15 685 517	3 819 797	477 619 761	216 644 679	244 300 501
1925	39 659 791	17 989 378	4 738 432	590 184 892	267 703 363	340 839 782
1926	41 312 867	18 739 201	4 828 964	604 739 883	274 305 396	317 527 865
1927	45 341 295	20 566 465	4 946 533	579 445 166	262 831 906	293 493 836
1928	68 400 738	31 026 052	8 770 149	574 646 559	260 655 294	365 305 858
1929	88 880 853	40 315 676	14 622 609	625 886 355	283 897 275	483 995 146
1930	127 708 478	57 927 591	14 056 224	568 303 206	257 777 998	361 431 937
1931	112 882 625	51 202 697	8 907 069			
1932	77 055 413	34 951 747	4 407 928			
1933	145 504 720	65 999 830	10 118 847			
1934	205 059 539	93 013 442	14 822 704			
1935	252 027 928	114 317 945	19 295 965			

COPPER: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1891-1952

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)		(Pounds)	(Kilograms)	
1891	4 127 697	1 872 291	531 234	1936	287 914 078	130 595 628
1892	2 203 795	999 624	254 538	1937	322 039 208	146 074 527
1893	3 641 504	1 651 758	391 461	1938	309 030 106	140 173 698
1894	5 207 679	2 362 163	497 854	1939	328 429 665	148 973 190
1895	4 576 337	2 075 791	492 414	1940	347 931 013	157 818 852
1896	3 167 256	1 436 643	344 598	1941	333 829 767	151 422 635
1897	5 500 652	2 495 053	621 023	1942	308 282 414	139 834 550
1898	8 375 223	3 798 937	1 007 539	1943	277 840 560	126 026 358
1899	5 723 324	2 596 056	1 007 877	1944	285 307 278	129 413 204
1900	6 740 058	3 057 238	1 091 215	1945	239 450 875	108 613 089
1901	8 695 831	3 944 362	1 401 507	1946	179 424 639	81 385 647
1902	7 408 202	3 360 303	864 278	1947	227 867 613	103 359 010
1903	7 172 533	3 253 406	949 285	1948	240 765 806	109 209 532
1904	4 913 594	2 228 768	630 070	1949	226 085 423	102 550 622
1905	8 779 259	3 982 204	1 368 686	1950	234 420 544	106 331 370
1906	10 638 231	4 825 420	2 050 838	1951	257 616 806	116 853 017
1907	14 104 337	6 397 619	2 821 432	1952	250 685 175	113 708 882
1908	15 005 171	6 806 231	1 981 883			70 861 789
1909	15 746 699	7 142 582	2 044 237			70 973 056
1910	19 259 016	8 735 742	2 453 213			
1911	17 932 263	8 133 937	2 219 297			
1912	22 250 601	10 092 702	3 635 971			
1913	25 885 929	11 741 659	3 952 522			
1914	28 948 211	13 130 687	3 937 536			
1915	39 361 464	17 854 059	6 799 693			
1916	44 997 035	20 410 311	12 240 094			
1917	42 867 774	19 444 495	11 651 461			
1918	47 074 475	21 352 622	11 593 502			
1919	24 346 623	11 043 442	4 550 627			
1920	32 059 993	14 542 168	5 596 392			
1921	12 821 385	5 815 682	1 602 930			
1922	10 943 636	4 963 949	1 464 477			
1923	31 656 800	14 359 282	4 565 227			
1924	37 113 193	16 834 261	4 833 622			
1925	39 718 777	18 016 134	5 577 311			
1926	41 312 867	18 739 201	4 828 964			
1927	45 341 295	20 566 465	4 946 533			
1928	66 607 510	30 212 658	8 770 149			
1929	88 879 853	40 315 223	14 622 572			
1930	127 718 871	57 932 305	15 187 259			
1931	112 882 625	51 202 697	9 096 463			
1932	77 055 413	34 951 747	4 407 928			
1933	145 504 720	65 999 830	10 118 847			
1934	205 059 539	93 013 442	14 822 704			
1935	252 027 928	114 317 945	19 295 965			

GOLD

METHODS

Volume of Production

Statistics Canada data are based on gold bullion produced plus recoverable gold in all mine products, covering the entire period from the inception of gold data collection in 1886 through to 1975.

The Ontario Ministry used recoveries of gold bullion at mills as the principal source of production from 1893 to 1953. In addition, recoveries of gold from a variety of other sources are incorporated in various years, as follows:

- 1912: gold recovered from Sudbury nickel-copper matte shipments for the 6-year period 1907-12 to Inco's Orford, New Jersey works;
- 1918-26: gold recovered in refining nickel-copper matte;
- 1919: also includes gold recovered in U.S. refineries from treating cobalt ores;
- 1921-23: also includes recoveries by Mond Nickel Company at Clydach, Wales;
- 1924: also includes gold recovered at silver smelters;
- 1927: gold recovered in refining nickel-copper matte plus gold recovered from silver ores;
- 1928-53: gold recovered in refining nickel-copper matte, plus estimated gold bullion content of shipments of copper-gold-silver, silver-lead-zinc, and cobalt ores and concentrates.

From 1954 to 1975 Ontario used the same basis for estimating gold production as that used by Statistics Canada.

Since the Ontario Ministry of Natural Resources and Statistics Canada estimates have been similar since 1912, it appears that the various additional items in the Ontario data are encompassed by, if not equivalent to, the Statistics Canada category 'recoverable gold in all mine products.'

Value of Production

The Statistics Canada basis for valuation changed over time as follows;

- 1891-1930: \$20.671834 per troy (fine) ounce (the official U.S. price of gold);
- 1931-71: the official U.S. Treasury buying price of gold, converted to Canadian funds;
- 1972-75: the average London Metal Exchange gold price, transposed to Canadian funds.

The change in valuation method in 1931 requires additional comment. In the Annual Report on the Mineral Production of Canada, 1926, the Dominion Statistician observed: 'Prior to 1931 gold was valued at \$20.671834 per fine ounce, regardless of what might be defined as normal fluctuations in foreign exchange. Beginning with 1931 and each year since, gold has been valued at the price per ounce in Canadian dollars . . .' (p. 4). A similar comment, with an accompanying rationale for the change in valuation method, first appears in the Annual Report on the Mineral Production of Canada, 1933, p. 3. The explanatory notes on method in the General Review of the Mining Industry, 1949 (26-201) state that gold was ' . . . valued at the standard rate of \$20.671834 per fine ounce until the end of 1930 and for succeeding years, unless otherwise specified at the average price at the United States Treasury transposed to Canadian funds.' (p. A-44). The average price set by the U.S. Treasury continued to be the basis for valuing gold until 1971.

The Ontario Ministry basis for valuation has been:

- 1891-92: value of ore mined at a sum reported at the mine;
- 1893-1911: valuation is uncertain, but is presumably based on receipts reported by mine operators;
- 1912-29: \$20.671834 per ounce;
- 1930-53: the average New York price of gold, translated into Canadian funds;
- 1954-75: the same valuation basis as Statistics Canada.

The Ontario valuation method for 1930 to 1953 stipulates the average New York price of gold, whereas Statistics Canada specifies the average price set by the U.S. Treasury. Since the unit values of gold in both series are approximately the same, it is apparent that the average New York price and the price set by the U.S. Treasury were coincident, and that the federal and provincial agencies therefore actually used the same valuation basis over this period.

In using the price for refined gold as a basis of valuation, both the Ontario and Statistics Canada estimates overstate the value of gold production in Ontario. The net return per unit of production to gold producers, which produce an impure product, or to base metallic mineral producers, which produce gold in concentrate as a

by-product, is less than the market price of refined gold.¹

This lower net price (or netback) is reflected in the unit values of the Ontario Ministry's series antedating 1912. For those years, unit values are generally lower than the \$20.67 standard valuation initiated by the federal agency in 1886, and adopted by the Ontario Bureau of Mines in 1912. These lower unit values in the Ontario Ministry's series tend to support the presumption that the valuation of output was based on the net proceeds realized by mine operators for those years.

DATA SELECTION

In addition to the series from the Statistical Files, the Statistics Canada series is reproduced for 1891 to 1958. After 1958 the Statistical Files and Statistics Canada quantity and value data are identical.

1. This also applies to the value of production of all other metallic minerals which, in their unrefined state, are valued at the market price for the refined metal.

GOLD: VOLUME AND VALUE OF PRODUCTION,
MNR SERIES, 1891-1975

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Troy Ounces)	(Grams)		Year	(Troy Ounces)	
1891			2 000	1936	2 389 558	83 308 201
1892			6 730	1937	2 587 090	90 508 688
1893			39 382	1938	2 896 477	101 945 441
1894			32 777	1939	3 086 060	112 114 762
1895	389	12 099	57 322	1940	3 261 688	125 579 597
1896			121 929	1941	3 194 309	122 977 102
1897	9 065	281 953	193 243	1942	2 763 822	106 413 978
1898	14 177	440 953	265 003	1943	2 117 214	81 517 998
1899	27 620	859 078	424 708	1944	1 731 838	66 675 000
1900	18 768	583 750	297 595	1945	1 625 367	62 576 089
1901	14 298	444 717	244 350	1946	1 801 294	65 998 448
1902	8 636	268 609	229 839	1947	1 939 317	67 876 390
1903	5 935	184 599	185 807	1948	2 095 424	73 339 904
1904	647	20 123	16 130	1949	2 354 510	85 269 362
1905	5 429	168 860	100 612	1950	2 481 113	94 216 874
1906	3 442	107 058	66 389	1951	2 462 978	91 105 477
1907	3 821	118 846	66 560	1952	2 513 701	87 540 620
1908	3 475	108 084	60 084	1953	2 182 438	75 388 307
1909	2 051	63 793	32 745	1954	2 361 387	80 460 251
1910	3 619	112 563	68 498	1955	2 523 040	87 223 660
1911	2 185	67 961	43 264	1956	2 513 912	86 489 962
1912	102 278	3 181 201	2 133 589	1957	2 578 206	86 621 067
1913	220 625	6 862 204	4 544 122	1958	2 716 514	92 192 231
1914	268 203	8 342 045	5 545 025	1959	2 683 449	90 083 383
1915	407 128	12 663 096	8 409 750	1960	2 732 673	92 774 248
1916	497 525	15 474 757	10 332 880	1961	2 637 720	93 533 551
1917	420 855	13 090 053	8 697 947	1962	2 421 249	90 578 924
1918	411 876	12 810 775	8 502 482	1963	2 338 854	88 291 739
1919	505 962	15 737 177	10 451 708	1964	2 155 370	81 365 217
1920	565 703	17 595 330	13 067 854	1965	1 946 003	73 420 747
1921	712 570	22 163 404	16 085 413	1966	1 660 750	62 626 883
1922	995 850	30 974 397	20 788 693	1967	1 495 385	56 450 784
1923	974 221	30 301 660	20 417 049	1968	1 379 779	52 031 466
1924	1 241 726	38 621 995	25 872 600	1969	1 229 666	46 346 112
1925	1 461 111	45 445 632	30 152 453	1970	1 162 042	42 484 255
1926	1 497 312	46 571 609	30 952 317	1971	1 133 987	40 079 636
1927	1 627 048	50 606 849	33 679 706	1972	1 019 303	58 720 007
1928	1 578 412	49 094 101	32 631 922	1973	922 303	89 843 380
1929	1 622 253	50 457 708	33 696 819	1974	801 105	124 427 629
1930	1 736 009	53 995 915	35 923 157	1975	755 148	123 678 894
1931	2 085 815	64 876 098	45 016 930			
1932	2 287 391	71 145 812	53 418 277			
1933	2 155 610	67 046 965	60 752 124			
1934	2 105 338	65 483 331	72 808 295			
1935	2 220 426	69 062 968	78 067 209			

GOLD: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1891-1958

Year	Volume of Production		Value of Production (Dollars)
	(Troy Ounces)	(Grams)	
1891	97	3 017	2 000
1892	344	10 699	7 118
1893	708	22 021	14 637
1894	1 917	59 625	39 624
1895	3 015	93 776	62 320
1896	5 563	173 028	115 000
1897	9 157	284 814	189 294
1898	12 863	400 084	265 889
1899	20 394	634 324	421 591
1900	14 391	447 610	297 495
1901	11 844	368 389	244 837
1902	11 118	345 808	229 828
1903	9 096	282 917	188 036
1904	1 935	60 185	40 000
1905	4 402	136 917	91 000
1906	3 202	99 593	66 193
1907	3 212	99 904	66 398
1908	3 212	99 904	66 398
1909	1 569	48 801	32 425
1910	3 089	96 078	63 849
1911	2 062	64 135	42 625
1912	86 523	2 691 166	1 788 596
1913	219 801	6 836 575	4 543 690
1914	268 264	8 343 943	5 545 509
1915	406 577	12 645 958	8 404 693
1916	492 481	15 317 871	10 180 485
1917	423 261	13 164 888	8 749 581
1918	411 976	12 813 885	8 516 299
1919	505 739	15 730 241	10 454 553
1920	564 995	17 573 308	11 679 483
1921	708 213	22 027 886	14 640 062
1922	1 000 340	31 114 051	20 678 862
1923	971 704	30 223 372	20 086 904
1924	1 241 728	38 622 058	25 668 795
1925	1 461 039	45 443 392	30 202 357
1926	1 497 215	46 568 592	30 950 180
1927	1 627 050	50 606 911	33 634 108
1928	1 578 434	49 094 785	32 629 126
1929	1 622 267	50 458 143	33 535 234
1930	1 736 012	53 996 008	35 886 532
1931	2 085 814	64 876 067	44 980 280
1932	2 280 105	70 919 192	53 534 743
1933	2 155 519	67 044 135	61 647 843
1934	2 105 339	65 483 362	72 634 195
1935	2 220 336	69 060 169	78 133 624

Year	Volume of Production		Value of Production (Dollars)
	(Troy Ounces)	(Grams)	
1936	2 378 503	73 979 712	83 318 960
1937	2 587 095	80 467 649	90 522 454
1938	2 896 477	90 090 505	101 883 578
1939	3 086 076	95 987 693	111 538 873
1940	3 261 688	101 449 837	125 574 988
1941	3 194 308	99 354 084	122 980 858
1942	2 763 819	85 964 380	106 407 032
1943	2 117 215	65 852 747	81 512 777
1944	1 731 836	53 866 120	66 675 686
1945	1 625 368	50 554 595	62 576 668
1946	1 813 333	56 400 960	66 639 988
1947	1 944 819	60 490 632	68 068 665
1948	2 095 377	65 173 509	73 338 195
1949	2 354 509	73 233 416	84 762 324
1950	2 481 110	77 171 147	94 406 236
1951	2 462 979	76 607 210	90 760 776
1952	2 513 691	78 184 529	86 144 190
1953	2 182 437	67 881 378	75 119 481
1954	2 361 385	73 447 283	80 452 387
1955	2 523 040	78 475 316	87 095 340
1956	2 513 912	78 191 403	86 604 268
1957	2 578 206	80 191 170	86 498 811
1958	2 716 514	84 493 030	92 307 146

IRON ORE

METHODS

Volume of Production

Production data in both Ontario and Statistics Canada sources show shipments of iron ore from mines. In 1924, however, shipments data unaccountably include only that portion shipped (exported) to points other than Ontario blast furnaces. There was no production of iron ore in Ontario from 1925 to 1938.

Value of Production

Shipments are valued at the point of shipment as reported by the shipper.

DATA SELECTION

Since there are frequent differences between the Statistical Files and Statistics Canada data series over the period antedating 1925, the Statistics Canada volume and value of production series for 1896 to 1924 are also presented. Statistics Canada sources indicate that the value of production is not available for 1896-97 and 1900-05, although such information is contained in the Statistical Files of the Ministry for 1900-05.

After 1938, the volume and value of production series agree in the Statistical Files and Statistics Canada, with only two minor exceptions. Statistics Canada data for the volume and value of production for 1940 are 414,603 short tons and \$1,211,305. For 1954, only the value of production figures differ; the Statistics Canada estimate is \$20,365,003.

IRON ORE: VOLUME AND VALUE OF PRODUCTION,
MNR SERIES, 1896-1975

Year	Volume of Production		Value of Production ^a (Dollars)
	(Short Tons)	(Tonnes)	
1896	15 270	13 852	
1897	2 770	2 512	
1898	20 968	19 021	
1899	16 911	15 341	30 951
1900	90 302	81 920	111 804
1901	273 354	247 982	152 578
1902	359 288	325 940	518 445
1903	208 154	188 834	450 099
1904	128 253	116 349	273 067
1905	211 597	191 957	227 909
1906	128 099	116 209	301 032
1907	205 295	186 240	482 532
1908	216 177	196 112	593 760
1909	263 777	239 294	645 622
1910	230 656	209 247	513 721
1911	175 631	159 329	445 929
1912	117 357	106 464	238 883
1913	195 937	177 751	424 072
1914	240 059	217 777	531 379
1915	394 053	357 478	764 515
1916	320 487	290 740	763 136
1917	297 239	269 650	823 742
1918	228 479	207 272	1 023 077
1919	195 915	177 731	688 452
1920	126 710	114 949	510 000
1921	58 508	53 077	227 134
1922	16 191	14 688	52 055
1923	30 451	27 624	113 543
1924	44	39	110
1925	0	0	0
1926	0	0	0
1927	0	0	0
1928	0	0	0
1929	0	0	0
1930	0	0	0
1931	0	0	0
1932	0	0	0
1933	0	0	0
1934	0	0	0
1935	0	0	0
1936	0	0	0
1937	0	0	0
1938	0	0	0
1939	123 598	112 126	341 594
1940	404 752	367 184	1 183 861

^aNot available for 1896 to 1898.

Year	Volume of Production		Value of Production (Dollars)
	(Short Tons)	(Tonnes)	
1941	516 037	468 140	1 426 057
1942	545 119	494 523	1 516 142
1943	498 850	452 549	1 452 250
1944	553 252	501 901	1 909 608
1945	1 135 444	1 030 057	3 635 095
1946	1 549 523	1 405 703	6 822 947
1947	1 919 366	1 741 219	9 313 201
1948	1 336 565	1 212 511	7 482 860
1949	2 011 736	1 825 016	13 192 781
1950	2 435 716	2 209 644	17 562 059
1951	2 841 984	2 578 204	21 205 152
1952	2 717 490	2 465 265	19 632 551
1953	2 832 090	2 569 228	23 137 997
1954	2 416 911	2 192 584	20 341 203
1955	4 362 191	3 957 313	34 340 897
1956	5 558 203	5 042 316	44 177 246
1957	4 867 105	4 415 363	41 317 629
1958	3 644 952	3 306 644	36 851 421
1959	6 018 089	5 459 518	50 830 404
1960	5 325 197	4 830 937	48 399 442
1961	5 772 664	5 236 872	62 350 773
1962	6 414 936	5 819 532	64 479 510
1963	6 749 617	6 123 149	70 033 690
1964	8 046 769	7 299 906	85 613 354
1965	8 475 218	7 688 588	94 209 236
1966	8 144 289	7 388 374	91 700 740
1967	8 649 763	7 846 932	99 903 925
1968	10 907 197	9 894 842	127 137 824
1969	10 516 786	9 540 667	128 166 423
1970	11 828 337	10 730 486	144 765 483
1971	11 178 670	10 141 118	136 205 400
1972	11 755 336	10 664 261	139 514 537
1973	12 424 318	11 271 151	152 468 574
1974	12 021 608	10 905 819	180 089 730
1975	10 476 161	9 503 813	219 024 019

IRON ORE: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1896-1924

Year	Volume of Production		Value of Production ^a (Dollars)
	(Short Tons)	(Tonnes)	
1896	15 270	13 852	
1897	2 770	2 512	
1898	21 111	19 151	63 077
1899	25 126	22 793	100 806
1900	82 950	75 250	
1901	272 538	247 242	
1902	359 288	325 940	
1903	209 634	190 176	
1904	141 601	128 458	
1905	193 464	175 507	
1906	141 078	127 983	337 918
1907	207 769	188 484	488 324
1908	216 177	196 112	528 475
1909	263 893	239 399	653 808
1910	231 445	209 963	513 722
1911	175 586	159 288	446 326
1912	112 321	101 895	222 490
1913	195 680	177 517	427 975
1914	240 079	217 796	531 200
1915	394 429	357 819	766 166
1916	271 967	246 724	706 799
1917	198 113	179 725	703 301
1918	201 119	182 452	833 722
1919	195 649	177 489	686 381
1920	126 900	115 121	507 600
1921	58 499	53 069	227 134
1922	16 190	14 687	52 054
1923	30 447	27 621	113 543
1924	44	39	110

^aNot available for 1896-97 and 1900-1905.

LEAD

METHODS

Volume of Production

Statistics Canada data are estimated on the basis of recoverable lead in ores and concentrates shipped for export, plus sales of smelter products produced at Galetta (1926(?)–1931). Ontario's methods are identical to those of Statistics Canada after 1925. From 1903 to 1925, the Ontario Ministry estimates of output are generally based on smelter shipments of pig lead (valued at the sum reported by the smelter). Exceptions include 1905, when the basis is the lead content of concentrates shipped (valued at the sum reported by the shipper), and 1918–25, when estimates also included lead recovered from silver-cobalt ores (valued at the average New York price).

It is stated in D.B.S., General Review of the Mining Industry, 1950 (26-201) that 'recoverable lead is computed as total lead content, less five percent of content as an allowance for smelter losses.' (p. A-37.) In 1966, the allowance for smelter losses was reduced to two percent (D.B.S., General Review of the Mineral Industries, 1966 and 1967 (26-201), p. A-48).

Value of Production

The smelter sales from Galetta are valued at the amount reported by the smelting company. Statistics Canada estimates of recoverable lead in ores and concentrates shipped for export are valued at annual average prices, as follows:

1903–08: New York price;
1909–10: Toronto price;
1911–15: Montreal price;
1926–39: London price, translated into Canadian funds;
1940–46: average of prices agreed upon by contract between Canadian producers and the British government;
1947–50: New York price, converted into Canadian funds;
1951–75: Montreal price.

(See M.C. Urquhart and K.A.H. Buckley (Eds.), Historical Statistics of Canada (Toronto: The Macmillan Company of Canada, Limited, 1965) p. 409.)

DATA SELECTION

Ontario Ministry of Natural Resources and Statistics Canada estimates are generally different for both volume and value of production until 1926. From that year to the end of the series the figures of both agencies are identical. Accordingly, the Statistics Canada data for the period 1903–26 are also reproduced.

LEAD: VOLUME AND VALUE OF PRODUCTION,
MNR SERIES, 1903-1975

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)		(Pounds)	(Kilograms)	
1903	50 000	22 679	1 500	699 244	317 171	47 199
1904	86 000	39 008	2 500	282 765	128 260	38 654
1905	282 000	127 913	9 000	343 883	155 982	62 037
1906	2 200 000	997 903	93 000	1949	0	0
1907	0	0	0	1950	0	0
1908	0	0	0	1951	0	0
1909	0	0	0	1952	1 803 455	818 033
1910	0	0	0	1953	656 755	297 899
1911	0	0	0	1954	2 815 611	1 277 139
1912	52 000	23 586	1 290	1955	3 853 603	1 747 964
1913	0	0	0	1956	3 010 163	1 365 386
1914	0	0	0	1957	1 012 565	459 291
1915	0	0	0	1958	2 513 224	1 139 979
1916	796 833	361 437	70 863	1959	3 222 447	1 461 677
1917	1 775 674	805 432	172 849	1960	1 661 896	753 823
1918	1 670 251	757 613	149 841	1961	1 670 535	757 741
1919	1 480 987	671 764	94 507	1962	2 287 087	1 037 405
1920	2 232 253	1 012 532	179 714	1963	3 077 814	1 396 072
1921	3 576 222	1 622 147	191 113	1964	4 054 865	1 839 255
1922	2 895 695	1 313 465	173 742	1965	3 877 218	1 758 676
1923	5 256 623	2 384 364	347 886	1966	3 970 467	1 800 973
1924	5 506 756	2 497 822	419 405	1967	11 058 534	5 016 066
1925	7 268 193	3 296 796	601 704	1968	25 800 813	11 703 051
1926	7 398 796	3 356 037	580 730	1969	24 193 257	10 973 876
1927	7 990 709	3 624 524	528 729	1970	23 920 137	10 849 991
1928	6 814 757	3 091 121	402 289	1971	17 830 939	8 087 977
1929	4 769 506	2 163 411	294 449	1972	21 210 868	9 621 087
1930	2 193 856	995 116	116 034	1973	22 992 009	10 428 999
1931	985 633	447 075	41 987	1974	20 221 581	9 172 354
1932	86 477	39 225	1 756	1975	13 651 446	6 192 191
1933	29 910	13 566	692			
1934	21 558	9 778	525			
1935	22 532	10 220	706			
1936	17 442	7 911	683			
1937	29 849	13 539	1 525			
1938	22 363	10 143	748			
1939	39 130	17 749	1 240			
1940	345 455	156 695	11 614			
1941	1 622 823	736 100	54 559			
1942	3 183 159	1 443 856	107 018			
1943	2 273 896	1 031 421	85 362			
1944	1 065 741	483 411	47 958			
1945	668 762	303 345	33 438			

LEAD: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1903-1926

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1903	50 000	22 679	2 119
1904	885 000	401 429	38 135
1905	284 212	128 916	13 378
1906	2 200 000	997 903	124 454
1907	0	0	0
1908	0	0	0
1909	0	0	0
1910	0	0	0
1911	0	0	0
1912	0	0	0
1913	33 000	14 968	1 537
1914	0	0	0
1915	88 985	40 362	4 983
1916	685 932	311 133	58 393
1917	1 586 711	719 720	176 712
1918	1 684 366	764 015	155 804
1919	1 487 586	674 757	103 625
1920	2 255 520	1 023 086	201 643
1921	3 312 493	1 502 521	190 203
1922	2 890 397	1 311 062	180 216
1923	4 401 494	1 996 484	315 983
1924	5 055 368	2 293 076	409 687
1925	7 209 534	3 270 189	657 510
1926	7 398 795	3 356 036	580 730

MAGNESIUM

METHODS

Magnesium metal is produced from dolomite. Chromasco Ltd. (formerly Dominion Magnesium Ltd.) has been the only producer of magnesium in Ontario. The firm produces magnesium metal and alloys at its plant in Haley, Ontario; the production of magnesium began in 1942.

The Ontario Ministry of Natural Resources and Statistics Canada use the same methods in deriving the volume and value of production, and their series are identical. Output figures are for magnesium metal plus magnesium content of alloys. Production is valued at the average New York price, translated into Canadian funds, for 1942-58, and at the sum reported by the producer for 1959-75.

The methods were not published for 1951-58; it is assumed that the 1950 definitions apply to these years.

MAGNESIUM: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1942-1975

Year	Volume of Production ^a		Value of Production ^a (Dollars)
	(Pounds)	(Kilograms)	
1942	437 910	198 632	208 520
1943	7 153 974	3 244 988	2 047 652
1944	10 579 778	4 798 906	2 575 695
1945	7 358 545	3 337 779	1 607 264
1946	320 677	145 456	75 538
1947	24 709	11 207	10 843
1948	0	0	0
1949	0	0	0
1950			
1951			
1952			
1953			
1954			
1955			
1956	14 639 734	6 640 471	4 543 202
1957	15 184 373	6 887 515	4 767 043
1958	9 087 362	4 121 958	2 747 755
1959	8 144 940	3 694 482	2 202 392
1960	14 577 138	6 612 078	4 313 987
1961	15 270 618	6 926 635	4 307 570
1962	17 631 310	7 997 427	4 821 823
1963	17 810 348	8 078 637	5 357 816
1964	18 706 020	8 484 907	5 587 909
1965	20 216 369	9 169 990	6 067 057
1966	13 445 701	6 098 867	4 175 743
1967	17 774 684	8 062 461	5 653 243
1968	19 856 937	9 006 955	6 181 992
1969	21 274 841	9 650 105	7 263 849
1970	20 707 110	9 392 587	7 140 807
1971	14 467 305	6 562 259	5 163 921
1972	11 847 671	5 374 013	4 537 125
1973	13 769 528	6 245 752	5 482 588
1974	13 132 868	5 956 968	9 260 172
1975	8 434 219	3 825 697	8 788 248

^aData for 1950 to 1955 are confidential.

MOLYBDENUM

METHODS

The production of molybdenum in Ontario has been sporadic. For the years up to 1944 the Statistics Canada estimates are based on molybdenite (MoS_2) content of ores and concentrates shipped and are valued at their sales value. For 1964, the production figure is the molybdenum content of oxides and sulphides shipped and valued as shown by the shipper. In the series of the Ontario Ministry, production is shipments of molybdenum concentrates for the years 1915-18, 1931, and 1937-38, and valued at the sum reported by the shipper. The same valuation procedure is used for the shipments of molybdenum ore for 1902-03. The methods for the remaining years in the series are identical to those of Statistics Canada.

DATA SELECTION

Since the coverage is disparate and frequent inconsistencies exist, the data from both the Statistical Files and Statistics Canada series are presented.

The Statistical Files show production for 1902 and 1903 of 3.25 and 85 tons of ore, valued at \$400 and \$1,275 respectively, and then zero production from 1904 to 1914. Statistics Canada does not indicate any production for these years; the first recorded production is for 1914, showing a value of \$1,500 but not showing any quantity. The data series in the tables begin at 1915. There has been no commercial production of molybdenum in Ontario since 1964.

MOLYBDENUM: VOLUME AND VALUE OF PRODUCTION,
MNR SERIES, 1915-1964

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)		(Pounds)	(Kilograms)	
1915	1 068	484	14 099			
1916	24 562	11 141	26 393			
1917	77 517	35 161	108 501			
1918	47 614	21 597	59 047			
1919	0	0	0			
1920	0	0	0			
1921	0	0	0			
1922	0	0	0			
1923	0	0	0			
1924	0	0	0			
1925	0	0	0			
1926	0	0	0			
1927	0	0	0			
1928	0	0	0			
1929	0	0	0			
1930	0	0	0			
1931	1 222	554	280			
1932	0	0	0			
1933	0	0	0			
1934	0	0	0			
1935	0	0	0			
1936	0	0	0			
1937	16 500	7 484	8 047			
1938	13 000	5 896	4 500			
1939	482	218	216			
1940	0	0	0			
1941	0	0	0			
1942	423	191	150			
1943	0	0	0			
1944	2 815	1 276	1 082			
1945	0	0	0			
1946	0	0	0			
1947	0	0	0			
1948	0	0	0			
1949	0	0	0			
1950	0	0	0			
1951	0	0	0			
1952	0	0	0			
1953	0	0	0			
1954	0	0	0			
1955	0	0	0			

MOLYBDENUM: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1915-1964

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)		(Pounds)	(Kilograms)	
1915	23 300	10 568	25 800			
1916	0	0	0			
1917	68 213	30 940	63 213			
1918	42 931	19 473	49 371			
1919	0	0	0			
1920	0	0	0			
1921	0	0	0			
1922	0	0	0			
1923	0	0	0			
1924	0	0	0			
1925	0	0	0			
1926	0	0	0			
1927	0	0	0			
1928	0	0	0			
1929	0	0	0			
1930	0	0	0			
1931	1 222	554	280			
1932	0	0	0			
1933	0	0	0			
1934	0	0	0			
1935	0	0	0			
1936	0	0	0			
1937	16 000	7 257	8 147			
1938	14 000	6 350	4 500			
1939	482	218	216			
1940	0	0	0			
1941	0	0	0			
1942	423	191	150			
1943	0	0	0			
1944	2 815	1 276	1 082			
1945	0	0	0			
1946	0	0	0			
1947	0	0	0			
1948	0	0	0			
1949	0	0	0			
1950	0	0	0			
1951	0	0	0			
1952	0	0	0			
1953	0	0	0			
1954	0	0	0			
1955	0	0	0			

NICKEL

METHODS

Volume of Production

The basis of the production data in both the Ontario Ministry of Natural Resources and Statistics Canada sources is the nickel content of nickel-copper matte shipped from Sudbury, and covers the entire period, 1890-1975. This base was supplemented over the years in a variety of ways, as itemized below.

Statistics Canada:

- 1915-24: refined nickel produced and nickel contained in silver-cobalt ores;
- 1925-75: refined and electrolytic nickel produced; nickel oxides and salts sold from smelters and refineries in Canada;
- 1925-48: nickel contained in speiss, residues exported;
- 1959-75: recoverable nickel in concentrates shipped for refining in Alberta.

Ontario Ministry of Natural Resources:

- 1904-05,
- 1907,
- 1912-13: nickel content of ore shipped from silver-cobalt mines;
- 1912-24: nickel content of shipments from outside Sudbury;
- 1914: also, nickel content of residue shipped from silver-cobalt ores, and for which payment was received;
- 1915-24: also, refined nickel and metallic nickel compounds;
- 1925-75: same as Statistics Canada methods.

Value of Production

Statistics Canada:

- 1890-1924: all products valued at the average New York price for virgin nickel;

Ontario Ministry of Natural Resources:

- 1890-1915: selling value of nickel metal in nickel-copper matte at the sum reported by the producers;
- 1890-1924: all other products valued at the sum reported by the producer (except that nickel contained in silver-cobalt ores was zero-valued for 1906, 1908-11);
- 1916-24: nickel content of nickel-copper matte valued at a price representative of the value of the nickel in matte set by the Ministry;

1925-75: Common valuation methods were employed by the Ontario Ministry of Natural Resources and Statistics Canada. Nickel content of nickel-copper matte shipped was valued at a price representative of the value of the nickel in matte as agreed upon by Statistics Canada and the Ontario Ministry of Natural Resources. 'This price is a few cents under the Canadian price for the metal and represents as close an approximation as possible to a fair value of nickel in the matte form after allowing a margin for treatment of this matte in refineries outside Canada.' (D.B.S., General Review of the Mining Industry, 1950 (26-201), p. A-38; S.C., General Review of the Mineral Industries, 1974 (26-201), p. 48.) Refined and electrolytic nickel was valued at the average price realized on sales during the year. Nickel in oxides and salts was valued at the total selling value in the form sold. Nickel contained in speiss was valued in the same manner as nickel-copper matte. Recoverable nickel in concentrate shipped was valued at an arbitrary price. Beginning in 1932, refined electrolytic nickel, nickel in oxides and salts, and nickel contained in speiss were all valued in Canadian dollars.

Statistics Canada methods were not published for 1951 to 1958. It is assumed that the 1950 methods applied to these years.

DATA SELECTION

Valuing nickel in matte at the equivalent of finished nickel (in contrast to Ontario's method of valuing the contained nickel as an intermediate product) results in a consistently high estimate of the value of production in the Statistics Canada series from 1890 to 1924. After 1924, however, the differences are small but persist until 1953. Since 1954, the two series have matched.

Discrepancies in the estimates of the volume of production are not as serious a problem. Significant differences were eliminated by 1925. The volume of production series agree since 1949.

Statistics Canada volume and value of production data are produced in the tables for the period 1890 to 1953, along with the data from the Statistical Files for the full period 1890 to 1975.

NICEL: VOLUME AND VALUE OF PRODUCTION,
MNR SERIES, 1890-1975

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)		(Pounds)	(Kilograms)	
1890	3 560 000	1 614 789	503 740	1931	65 666 320	15 267 453
1891	4 310 000	1 954 983	609 865	1932	30 327 968	7 179 862
1892	4 164 000	1 888 758	590 902	1933	83 264 658	20 130 480
1893	3 306 000	1 499 576	454 702	1934	128 687 340	32 139 425
1894	5 141 000	2 331 918	612 724	1935	138 562 940	35 349 773
1895	4 631 500	2 100 813	404 861	1936	169 739 297	43 878 565
1896	3 897 000	1 767 649	357 000	1937	224 791 404	59 469 674
1897	3 998 000	1 813 462	391 651	1938	210 565 589	53 916 279
1898	5 567 500	2 525 375	514 220	1939	226 110 293	50 922 521
1899	5 744 000	2 605 434	526 104	1940	245 563 497	59 804 359
1900	7 080 000	3 211 433	756 626	1941	282 280 122	68 644 405
1901	8 882 000	4 028 807	1 410 470	1942	285 312 432	70 001 165
1902	11 890 000	5 393 213	2 210 961	1943	288 078 241	71 670 432
1903	13 996 000	6 348 478	2 499 068	1944	274 656 574	69 214 036
1904	9 485 679	4 302 631	1 516 747	1945	245 146 145	61 982 659
1905	19 085 885	8 657 211	3 363 964	1946	192 132 195	45 386 533
1906	21 572 000	9 784 894	3 839 419	1947	237 256 892	70 780 556
1907	21 269 557	9 647 708	2 271 667	1948	263 257 078	87 409 043
1908	19 126 000	8 675 407	1 866 059	1949	257 379 216	99 351 785
1909	26 282 118	11 921 368	2 790 812	1950	247 317 867	112 292 202
1910	37 272 000	16 906 294	4 005 961	1951	275 806 272	151 217 865
1911	34 098 000	15 466 592	3 664 474	1952	281 117 072	151 666 687
1912	44 990 151	20 407 189	4 736 460	1953	287 385 777	160 491 126
1913	49 909 503	22 638 569	5 250 927	1954	316 019 050	143 343 829
1914	45 823 752	20 785 304	5 136 804	1955	322 322 355	176 556 296
1915	68 235 225	30 950 977	17 042 230	1956	335 152 371	152 022 558
1916	82 749 154	37 534 384	20 686 045	1957	354 792 843	208 099 454
1917	83 787 286	38 005 273	21 042 159	1958	254 286 784	160 931 326
1918	92 044 542	41 750 701	27 840 022	1959	347 929 183	115 342 545
1919	43 328 798	19 653 612	11 925 220	1960	324 187 190	157 818 022
1920	57 562 614	26 109 962	15 689 131	1961	382 566 712	240 053 265
1921	16 531 424	7 498 527	4 050 602	1962	392 435 773	178 005 872
1922	30 416 345	13 796 622	7 038 202	1963	333 163 344	295 423 149
1923	53 544 580	24 287 412	9 563 430	1964	298 178 570	151 120 350
1924	61 157 090	27 740 389	11 309 326	1965	324 187 190	246 252 488
1925	73 857 114	33 501 023	15 946 673	1966	382 566 712	147 048 835
1926	65 714 294	29 807 502	14 374 163	1967	320 428 750	269 461 584
1927	66 798 717	30 299 388	15 262 171	1968	380 117 521	352 238 885
1928	99 616 979	45 185 501	22 318 907	1969	407 493 447	172 418 407
1929	113 794 179	51 616 171	27 115 461	1970	293 561 275	184 835 918
1930	105 234 598	47 733 610	24 454 911	1971	448 509 011	133 157 154
				1972	431 506 689	203 440 265
				1973	378 855 007	171 845 740
				1974	393 293 298	519 935 356
				1975	460 879 205	574 786 081
					394 836 613	209 051 290
					179 094 875	749 782 101
						811 328 713

NICKEL: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1890-1953

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)		(Pounds)	(Kilograms)	
1890	1 435 742	651 242	933 232	1931	65 666 320	29 785 742
1891	4 035 347	1 830 402	2 421 208	1932	30 327 968	13 756 535
1892	2 413 717	1 094 843	1 399 956	1933	83 264 658	37 768 214
1893	3 982 982	1 806 650	2 071 151	1934	128 687 340	58 371 596
1894	4 907 430	2 225 972	1 870 958	1935	138 516 240	62 829 910
1895	3 888 525	1 763 805	1 360 984	1936	169 739 393	76 992 494
1896	3 397 113	1 540 904	1 188 990	1937	224 790 974	101 963 471
1897	3 997 647	1 813 302	1 399 176	1938	210 572 738	95 514 187
1898	5 517 690	2 502 782	1 820 838	1939	226 105 865	102 559 895
1899	5 744 000	2 605 434	2 067 840	1940	245 557 871	111 383 177
1900	7 080 227	3 211 536	3 327 207	1941	282 258 235	128 030 182
1901	9 189 047	4 168 081	4 594 523	1942	285 211 803	129 369 898
1902	10 693 410	4 850 449	5 025 903	1943	288 018 615	130 643 046
1903	12 505 510	5 672 403	5 002 204	1944	274 598 629	124 555 843
1904	10 547 883	4 784 439	4 219 153	1945	245 130 983	111 189 544
1905	18 876 315	8 562 152	7 550 526	1946	192 124 537	87 146 224
1906	21 490 955	9 748 133	8 948 834	1947	237 251 496	107 615 468
1907	21 189 793	9 611 528	9 535 407	1948	263 479 163	119 512 138
1908	19 143 111	8 683 169	8 231 538	1949	257 379 216	116 745 248
1909	26 282 991	11 921 764	9 461 877	1950	247 317 867	112 181 497
1910	37 271 033	16 905 856	11 181 310	1951	275 806 272	125 103 620
1911	34 098 744	15 466 930	10 229 623	1952	281 117 072	127 512 558
1912	44 841 542	20 339 781	13 452 463	1953	287 385 777	130 355 995
1913	49 676 772	22 533 004	14 903 032			151 269 994
1914	45 517 937	20 646 588	13 655 381			151 349 438
1915	68 308 657	30 984 285	20 492 597			160 430 098
1916	82 958 564	37 629 371	29 035 497			
1917	84 330 280	38 251 571	33 732 112			
1918	92 507 293	41 960 602	37 002 917			
1919	44 544 883	20 205 219	17 817 953			
1920	61 335 706	27 821 408	24 534 282			
1921	19 293 060	8 751 184	6 752 571			
1922	17 597 123	7 981 920	6 158 993			
1923	62 453 843	28 328 586	18 332 077			
1924	69 536 350	31 541 157	19 470 178			
1925	73 857 114	33 501 023	15 946 672			
1926	65 714 294	29 807 502	14 374 163			
1927	66 798 717	30 299 388	15 262 171			
1928	96 755 578	43 887 591	22 818 907			
1929	110 275 912	50 020 312	27 115 461			
1930	103 768 857	47 068 761	24 455 133			

PLATINUM GROUP METALS

METHODS

There are five metals in the platinum group: platinum, palladium, rhodium, ruthenium and iridium. The platinum group metals are recovered as by-products of nickel-copper mining operations. The estimating methods for all metals within the platinum group are identical although there are differences between the procedures of Statistics Canada and those of the Ontario Ministry of Natural Resources.

Volume of Production

Statistics Canada production data record recoverable metals in smelter and refinery products shipped. 'Beginning with 1946, the platinum metals production is the assay content of concentrates and refinery residues shipped for export, plus the platinum group metal content of the matte shipped for export.' (General Review of the Mining Industry, 1950 (26-201), p. A-38; General Review of the Mineral Industries, 1975 (26-201), p. 66.)

The methods used by the Ontario Ministry of Natural Resources are the same as those used by Statistics Canada for 1925-29, 1935-36, 1938-39, 1940-41, and 1952-75. Production for all other years is based on recoveries of refined metal, except that for the year 1912 the recoveries of refined metal are for the six years 1907-1912.

Production also includes recoveries from Manitoba ores.

Value of Production

Statistics Canada procedures for valuing production are as follows:

1919-23: average New York price;
 1924-30: sales value to the producer;
 1931: average New York price;
 1932-46: average London price, translated into Canadian dollars;
 1947-75: average New York price translated into Canadian funds.

Valuation is on the basis of refined metal prices.

The MNR valuation procedure has not been ascertained for those years when the Ontario Ministry's methods for obtaining volume of production differ from those applied by Statistics Canada. The internal evidence indicates, however, that the valuation methods were the same.

Where there are differences between the two series for the total platinum metals group, the proportional differences between the two series are similar if not identical, for the volume and value of production series.

DATA SELECTION

In the early years, three series are given in the Statistics Canada data: platinum, palladium and other platinum metals. There is, however, a progressive compression of the data over time. From 1919 to 1924 the data are broken down into platinum, palladium and other platinum metals. Then from 1925 to 1959, platinum is the only metal in the group for which a separate series is given. Since 1960, the data have been published only as the platinum group metals. The three Statistics Canada series are presented in the tables: platinum, palladium and total platinum metals. Only the aggregate data for the platinum group metals series for the volume and value of production are available from the Statistical Files of the Ontario Ministry. This series is reproduced in its entirety, while the Statistics Canada series for the platinum group metals is truncated at 1932. By that date the discrepancies between the Statistical Files and Statistics Canada series had been virtually eliminated.

Some disaggregated data for the platinum group metals are available until 1959, from the Annual Reports of the Ministry, for both output and value of production data. Until the early 1930s, quantity and value data are separately published for platinum, palladium and other platinum group metals combined. From the early 1930s to 1959, disaggregated quantity data are published for platinum, palladium and the other platinum group metals. Since 1960, data have been published only for the platinum group totals.

PALLADIUM: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1902-1924

Year	Volume of Production		Value of Production (Dollars)
	(Troy Ounces)	(Grams)	
1902	4 411	137 197	86 014
1903	3 177	98 815	61 952
1904	952	29 610	18 564
1905	1 562	48 583	28 116
1906	314	9 766	5 652
1907	0	0	0
1908	0	0	0
1909	0	0	0
1910	0	0	0
1911	0	0	0
1912	0	0	0
1913	0	0	0
1914	0	0	0
1915	0	0	0
1916	0	0	0
1917	0	0	0
1918	0	0	0
1919	62	1 928	3 534
1920	913	28 397	58 392
1921	591	18 382	38 267
1922	724	22 518	47 060
1923	1 732	53 871	138 560
1924	8 923	277 536	811 993

PLATINUM: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1902-1925

Year	Volume of Production		Value of Production (Dollars)
	(Troy Ounces)	(Grams)	
1902	0	0	0
1903	0	0	0
1904	0	0	0
1905	0	0	0
1906	0	0	0
1907	0	0	0
1908	0	0	0
1909	0	0	0
1910	0	0	0
1911	0	0	0
1912	0	0	0
1913	0	0	0
1914	0	0	0
1915	0	0	0
1916	0	0	0
1917	0	0	0
1918	0	0	0
1919	25	777	1 447
1920	578	17 977	36 961
1921	269	8 366	20 184
1922	458	14 245	44 709
1923	1 210	37 635	141 010
1924	9 181	285 561	1 090 858
1925	8 692	270 351	1 027 477

PLATINUM GROUP METALS: VOLUME AND VALUE OF PRODUCTION, MNR SERIES, 1902-1975

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Troy Ounces)	(Grams)		(Troy Ounces)	(Grams)	
1902	6 786	211 068	132 326	239 337	7 444 212	12 838 214
1903	4 887	152 002	95 307	204 902	6 373 164	9 970 087
1904	1 488	46 281	29 016	269 505	8 382 542	16 896 808
1905	1 562	48 583	28 116	335 916	10 448 155	19 885 049
1906	314	9 766	5 652	273 183	8 496 941	17 822 766
1907	0	0	0	318 366	9 902 289	22 490 536
1908	0	0	0	279 722	8 700 326	18 475 723
1909	0	0	0	303 563	9 441 864	20 046 390
1910	0	0	0	343 706	10 690 451	20 906 556
1911	0	0	0	384 746	11 966 938	23 069 365
1912	6 582	204 723	227 971	314 818	9 791 934	22 407 090
1913	0	0	0	416 147	12 943 618	25 731 333
1914	0	0	0	300 458	9 345 288	14 321 443
1915	0	0	0	328 091	10 204 770	16 932 178
1916	0	0	0	483 585	15 041 174	28 871 955
1917	0	0	0	418 278	13 009 900	24 534 349
1918	0	0	0	470 782	14 642 957	28 848 262
1919	1 770	55 053	200 000	1963	357 649	22 585 055
1920	19 066	593 018	1 996 535	1964	376 238	25 404 117
1921	13 418	417 346	862 034	1965	463 127	36 109 799
1922	11 788	366 647	924 712	1966	395 952	32 363 556
1923	15 625	485 991	1 418 633	1967	399 898	34 580 361
1924	18 697	581 541	1 891 497	1968	484 849	46 124 003
1925	16 980	528 137	1 676 446	1969	308 465	30 729 815
1926	19 495	606 362	1 559 527	1970	482 428	43 556 597
1927	22 762	707 977	1 270 843	1971	475 169	39 821 616
1928	23 539	732 144	1 309 923	1972	402 423	34 330 972
1929	29 615	921 129	1 646 381	1973	352 909	41 844 285
1930	68 022	2 115 720	2 436 683	1974	384 618	60 794 030
1931	91 643	2 850 415	2 812 834	1975	399 219	56 493 077
1932	64 897	2 018 522	1 998 911			
1933	55 715	1 732 930	1 501 233			
1934	200 110	6 224 116	6 187 992			
1935	190 107	5 912 988	5 407 392			
1936	235 222	7 316 222	7 802 997			
1937	259 184	8 061 523	9 931 556			
1938	292 203	9 088 529	887 362			
1939	284 279	8 842 065	9 421 334			
1940	199 985	6 220 228	7 760 157			
1941	221 689	6 895 298	8 144 164			
1942	507 761	15 793 132	19 176 254			
1943	345 710	10 752 782	13 691 748			
1944	200 452	6 234 754	8 024 719			
1945	666 908	20 743 157	26 688 646			

PLATINUM GROUP METALS: VOLUME AND VALUE OF PRODUCTION, SC SERIES, 1902-1932

Year	Volume of Production		Value of Production (Dollars)
	(Troy Ounces)	(Grams)	
1902	4 411	137 197	86 014
1903	3 177	98 815	61 952
1904	952	29 610	18 564
1905	1 562	48 583	28 116
1906	314	9 766	5 652
1907	0	0	0
1908	0	0	0
1909	0	0	0
1910	0	0	0
1911	0	0	0
1912	0	0	0
1913	0	0	0
1914	0	0	0
1915	0	0	0
1916	0	0	0
1917	0	0	0
1918	0	0	0
1919	87	2 706	4 981
1920	2 004	62 331	127 168
1921	917	28 521	68 141
1922	1 573	48 925	123 049
1923	3 246	100 961	324 570
1924	18 697	581 541	1 953 971
1925	16 980	528 137	1 676 446
1926	19 495	606 362	1 559 527
1927	22 762	707 977	1 270 843
1928	23 539	732 144	1 309 923
1929	29 615	921 129	1 646 381
1930	68 040	2 116 280	2 436 683
1931	91 643	2 850 415	2 812 834
1932	64 897	2 018 522	1 187 911

SELENIUM

METHODS

Selenium is recovered as a by-product in the refining of copper from copper-sulphide ores. In Ontario, selenium is recovered at Inco's Copper Cliff refinery. Production is the quantities reported by the company, and is valued at the average London price for the metal (1931-44) and at the average New York price (1945-75).

SELENIUM: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1931-1975

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1931	16 899	7 665	32 108
1932	0	0	0
1933	26 090	11 834	53 745
1934	51 574	23 393	91 286
1935	75 363	34 184	144 697
1936	106 300	48 216	188 151
1937	116 696	52 932	201 884
1938	54 577	24 755	94 691
1939	126 930	57 574	224 539
1940	136 350	61 847	260 429
1941	142 498	64 636	272 171
1942	76 000	34 473	145 920
1943	82 000	37 194	143 500
1944	65 000	29 483	117 000
1945	168 000	76 203	322 560
1946	270 606	122 744	492 503
1947	146 406	66 408	273 779
1948	108 989	49 436	217 978
1949	86 842	39 390	178 026
1950	63 709	28 897	154 176
1951	82 409	37 380	267 005
1952	81 578	37 003	265 128
1953	92 698	42 047	389 332
1954	94 826	43 012	474 130
1955	94 465	42 848	708 488
1956	109 156	49 512	1 473 606
1957	86 459	39 217	951 049
1958	90 295	40 957	677 213
1959	101 400	45 994	709 800
1960	144 500	65 544	1 011 500
1961	164 800	74 752	1 071 200
1962	142 915	64 825	821 761
1963	95 100	43 136	461 235
1964	104 905	47 584	508 789
1965	123 175	55 871	597 399
1966	111 000	50 348	538 350
1967	134 800	61 144	653 780
1968	127 500	57 833	618 375
1969	84 000	38 101	480 480
1970	131 506	59 650	1 130 952
1971	128 000	58 059	1 163 520
1972	108 783	49 343	969 257
1973	94 950	43 068	867 843
1974	128 504	58 288	2 023 938
1975	107 700	48 851	1 971 987

SILVER

METHODS

Volume of Production

Statistics Canada production figures include:

1898-1921: sales of silver bullion plus estimated silver content of shipments of gold bullion and silver content of shipments of silver-bearing ores;

1922-49: silver bullion produced plus silver content of gold bullion shipments, and silver recoverable in other smelter products and in ores exported;

1950-75: silver bullion produced; silver recovered in crude gold bullion produced, in blister copper made at Canadian smelters, and in nickel-copper matte shipped for export; recoverable silver in ores and concentrates shipped for export.

No direct information is available in published data sources on the computation of output estimates for 1951 to 1958. Since the published 1950 and 1959 methods are identical, it is assumed that the 1950 method is applicable throughout the 1950s.

Ontario Ministry of Natural Resources production figures have been derived as follows:

1898: silver bullion shipped;

1899-1911, 1913-17: silver bullion shipped plus estimated silver content of crude gold bullion and silver bullion content of ores, concentrates and residues shipped;

1912: silver bullion shipped, plus estimated silver content of crude gold bullion and silver content of ores, concentrates and residues shipped, plus silver recovered from Sudbury nickel-copper matte shipments for the six-year period 1907-12 to Inco's Orford, New Jersey works;

1918-23: silver bullion shipped, plus estimated silver content of crude gold bullion and silver content of ores, concentrates and residues shipped, plus silver recovered by nickel-copper refineries;

1924-28: sales of silver bullion by reduction companies, smelters and mines, plus silver content of crude gold bullion, plus silver contained in ores, concentrates and residues exported, plus silver recovered by nickel-copper refineries;

1929-53: includes the same coverage as for 1924-28, plus estimated silver recovered from Ontario ores and concentrates treated in other provinces;

1954-75: same as Statistics Canada methods.

Value of Production

The Statistics Canada valuation bases were:

1898-1930: the average New York price of silver (not converted into Canadian funds);

1931-50: the average New York price of silver, translated into Canadian funds;

1951-68: the average Montreal price;

1969-75: the average Toronto price.

As mentioned above, the Statistics Canada methods are not published for the years 1951 to 1958. A secondary source indicates, however, that the basis of valuation was changed from the New York to the Montreal price in 1951. (M.C. Urquhart and K.A.H. Buckley (Eds.), *Historical Statistics of Canada*, (Toronto: The Macmillan Company of Canada Limited, 1965), p. 409.)

Ontario Ministry of Natural Resources used the following values:

1898: the average New York price of silver for the last six months of 1898;

1899-1953: the gross revenues reported by the mine operator (before deducting treatment and shipping charges);

1954-75: same as Statistics Canada.

DATA SELECTION

The Ontario and Statistics Canada data for the volume and value of silver production are different for virtually every year from 1898 to 1952. In 1953, the discrepancies disappear for the volume of production. It is not until 1959, however, that agreement between the two series of value of production is established. From 1952 to 1958, though, the differences between the two series are very small.

The persistent differences in the estimates of value of production are due to a combination of dissimilar methods for estimating both output and value of production, especially output, and are traceable mainly to conceptual differences in

estimating silver bullion. The Ontario statistical agency used sales (or shipments) of bullion, whereas the Statistics Canada data are based on the quantity of bullion produced. The concepts used by the two statistical agencies for the other components making up the aggregate for silver production are similar for the 1922-1958 period.

Along with the complete Statistical Files series, the Statistics Canada series for the volume and value of production are reproduced for the period 1898-1958.

SILVER: VOLUME AND VALUE OF PRODUCTION,
MNR SERIES, 1898-1975

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Troy Ounces)	(Grams)		(Troy Ounces)	(Grams)	
1898	86 600	2 693 561	51 960	1941	4 756 679	1 787 633
1899	104 000	3 234 761	62 090	1942	4 311 631	1 748 491
1900	160 612	4 995 591	96 367	1943	3 152 765	1 360 417
1901	145 000	4 510 004	80 088	1944	2 947 871	1 239 961
1902	96 666	3 006 648	58 000	1945	2 861 188	1 321 491
1903	16 000	497 655	8 640	1946	2 608 365	2 171 545
1904	206 881	6 434 718	111 893	1947	2 413 827	1 715 401
1905	2 473 552	76 936 067	1 372 877	1948	2 776 544	2 155 682
1906	5 433 984	169 015 795	3 689 286	1949	2 941 433	2 209 831
1907	9 996 887	310 937 942	6 146 904	1950	4 925 337	4 082 207
1908	19 444 397	604 788 350	9 136 975	1951	6 115 694	5 781 939
1909	26 006 450	808 891 014	12 646 073	1952	6 017 665	5 021 323
1910	30 901 242	961 136 063	15 624 312	1953	5 154 619	4 331 199
1911	31 499 410	979 741 168	16 175 229	1954	5 443 721	4 530 484
1912	30 721 026	955 530 719	17 699 391	1955	6 051 017	5 337 163
1913	29 797 060	926 792 164	16 588 887	1956	6 626 447	5 940 586
1914	25 172 982	782 967 261	12 830 913	1957	6 910 130	6 034 598
1915	24 354 882	757 521 507	11 950 198	1958	9 815 257	8 529 142
1916	19 959 116	620 797 901	12 672 536	1959	10 540 856	9 252 763
1917	19 479 288	605 873 582	16 182 966	1960	11 220 823	9 976 434
1918	17 413 506	541 620 579	17 414 283	1961	8 870 402	8 361 240
1919	11 335 018	352 558 469	12 904 348	1962	9 383 445	10 931 713
1920	11 065 507	344 175 740	10 859 320	1963	9 601 621	13 288 643
1921	8 427 102	262 112 171	5 667 071	1964	9 929 858	13 901 801
1922	10 912 114	339 404 684	7 793 755	1965	10 822 213	15 151 098
1923	10 635 724	330 807 994	6 840 872	1966	10 900 204	15 249 385
1924	10 287 994	319 992 382	6 939 240	1967	14 309 391	24 783 864
1925	12 035 119	374 334 044	8 298 106	1968	21 844 592	50 526 541
1926	10 389 156	323 138 872	6 343 415	1969	22 260 439	42 962 647
1927	9 047 598	281 411 754	5 171 753	1970	19 876 430	36 771 396
1928	7 218 271	224 513 324	4 189 713	1971	18 681 633	29 143 347
1929	8 518 816	264 964 795	4 381 028	1972	19 587 694	32 711 449
1930	10 566 498	328 654 825	4 026 894	1973	19 617 406	49 553 568
1931	7 185 593	223 496 925	2 208 449	1974	17 852 419	82 638 847
1932	5 768 230	179 412 007	1 755 186	1975	14 908 138	67 176 070
1933	5 076 927	157 910 081	1 887 398			
1934	5 284 736	164 373 663	2 485 893			
1935	6 265 035	194 864 370	4 013 157			
1936	5 132 583	159 641 176	2 294 402			
1937	4 507 683	140 204 613	2 011 538			
1938	4 403 334	136 958 996	1 914 602			
1939	4 633 589	144 120 727	1 860 728			
1940	5 083 671	158 119 843	1 852 110			

SILVER: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1898-1958

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Troy Ounces)	(Grams)		(Troy Ounces)	(Grams)	
1898	85 000	2 643 795	49 521	1941	4 977 476	154 816 809
1899	202 000	6 282 902	120 352	1942	4 452 787	138 497 157
1900	161 650	5 027 877	99 140	1943	2 671 320	83 087 339
1901	151 400	4 709 066	89 250	1944	3 143 275	97 766 781
1902	145 000	4 510 004	75 632	1945	3 185 369	99 076 050
1903	17 777	552 926	9 502	1946	2 485 215	77 298 827
1904	206 875	6 434 531	118 376	1947	2 342 032	72 845 337
1905	2 451 356	76 245 694	1 479 442	1948	3 210 107	99 845 488
1906	5 401 766	168 013 703	3 607 894	1949	2 562 859	79 713 825
1907	9 982 363	310 486 195	6 521 178	1950	4 408 620	137 123 409
1908	19 398 545	603 362 194	10 254 847	1951	4 520 094	140 590 638
1909	24 822 099	772 053 580	12 784 126	1952	6 491 124	201 896 524
1910	30 366 366	944 499 560	16 241 755	1953	5 154 619	160 326 572
1911	30 540 754	949 923 633	16 279 443	1954	5 443 721	169 318 649
1912	29 214 025	908 657 748	17 772 352	1955	6 051 017	188 207 666
1913	28 411 261	883 688 997	16 987 377	1956	6 626 447	206 105 540
1914	25 139 214	781 916 959	13 779 055	1957	6 910 130	214 929 068
1915	22 748 609	707 560 832	11 302 419	1958	9 815 257	305 288 618
1916	21 608 158	672 088 841	14 188 133			
1917	19 301 835	600 354 177	15 714 975			
1918	17 198 737	534 940 517	16 643 562			
1919	12 117 878	376 908 137	13 465 628			
1920	9 907 626	308 161 615	9 996 795			
1921	9 761 607	303 619 916	6 116 037			
1922	10 811 903	336 287 774	7 300 305			
1923	10 540 943	327 859 976	6 838 226			
1924	11 272 567	350 616 026	7 527 933			
1925	10 529 131	327 492 581	7 271 944			
1926	9 274 965	288 483 658	5 760 402			
1927	9 307 953	289 509 700	5 246 893			
1928	7 242 601	225 270 072	4 213 456			
1929	8 890 726	276 532 489	4 711 462			
1930	10 205 683	317 432 224	3 893 876			
1931	7 438 951	231 377 239	2 222 014			
1932	6 335 788	197 065 035	2 006 648			
1933	4 535 680	141 075 417	1 715 975			
1934	5 321 160	165 506 576	2 525 470			
1935	5 161 651	160 545 292	3 344 229			
1936	5 219 366	162 340 429	2 355 343			
1937	4 693 047	145 970 078	2 106 286			
1938	4 318 837	134 330 846	1 877 701			
1939	4 689 422	145 857 328	1 898 653			
1940	5 563 101	173 031 782	2 127 831			

TELLURIUM

METHODS

Tellurium is recovered as a by-product in the refining of copper from copper-sulphide ores. In Ontario, tellurium is recovered at Inco's Copper Cliff refinery. Production is the quantities reported by the company, and is valued at the average London price for the metal (1934-44) and at the average New York price (1945-75).

TELLURIUM: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1934-1975

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1934	5 130	2 326	25 599
1935	14 275	6 475	28 550
1936	10 197	4 625	18 049
1937	6 651	3 016	11 506
1938	0	0	0
1939	0	0	0
1940	3 491	1 583	5 607
1941	142 498	64 636	272 171
1942	76 000	34 473	145 920
1943	82 000	37 194	143 500
1944	65 000	29 483	117 000
1945	168 000	76 203	322 560
1946	270 606	22 744	492 503
1947	146 406	66 408	273 779
1948	108 989	49 436	217 978
1949	86 842	39 390	178 026
1950	63 709	28 897	154 176
1951	82 409	37 380	267 005
1952	81 578	37 003	265 128
1953	92 698	42 047	389 332
1954	94 826	43 012	474 130
1955	94 465	42 848	708 488
1956	109 156	49 512	1 473 606
1957	86 459	39 217	951 049
1958	90 295	40 957	677 213
1959	101 400	45 994	709 800
1960	144 500	65 544	1 011 500
1961	164 800	74 752	1 071 200
1962	142 915	64 825	821 761
1963	95 100	43 136	461 235
1964	104 905	47 584	508 789
1965	123 175	55 871	597 399
1966	111 000	50 348	538 350
1967	134 800	61 144	653 780
1968	127 500	57 833	618 375
1969	84 000	38 101	480 480
1970	131 506	59 650	1 130 952
1971	128 000	58 059	1 163 520
1972	108 783	49 343	969 257
1973	94 950	43 068	867 843
1974	128 504	58 288	2 023 938
1975	107 700	48 851	1 971 987

THORIUM

METHODS

Production figures show the thorium content of the salts shipped, valued at the sum reported by the producer.

Statistics Canada sources indicate that the data are not available for the years 1962 to 1965. Both the quantity and value of production data are published, however, in the Department of Mines, Annual Report 76 (1966), p. 4. Otherwise, the Ontario Ministry and Statistics Canada figures agree.

THORIUM: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1959-1969

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1959	47 447	21 521	105 676
1960 ^a			
1961			
1962	31 939	14 487	120 384
1963	77 539	35 171	464 154
1964	97 892	44 403	371 519
1965	46 339	21 019	188 865
1966	87 393	39 640	210 528
1967	117 383	53 244	214 597
1968	139 191	63 135	261 836
1969 ^b	29 014	13 160	55 087

^aThe data for 1960 and 1961 are confidential.

^bThere was only one producer of thorium. Production stopped in 1968, although some shipments were made in 1969. No production was reported since 1969.

TIN

METHODS

The first year of reported tin production in the province is 1974. Production is tin in concentrates recovered as a by-product of base metal mining, and is valued as reported by the producer. Valuation is based on the price per pound of tin in the concentrate, with no deductions for smelting charges.

TIN: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1974-1975

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1974	399 358	181 145	1 397 815
1975	632 546	286 918	2 165 533

TUNGSTEN

METHODS

The production of tungsten in Ontario took place intermittently between 1940 and 1953. Tungsten, as oxide in concentrates, was a product of gold mining operations. For the 1940s, production is recorded as shipments of tungsten concentrates, and for 1950-53 output is the tungsten oxide content of tungsten concentrates shipped.

Until 1943, when production ceased on instructions from the Metals Controller, Ottawa, all tungsten concentrates were sold through the Metals Controller at \$26.50 per short ton unit (20 pounds) of tungsten oxide for concentrates containing 70 percent tungsten oxide, delivered at Welland. (D.B.S. Annual Report on the Mineral Production of Canada, 1944 (26-201), p. 173. See also, Ontario, Department of Mines, Geology and Ore Deposits of Tisdale Township, by S.A. Ferguson, Geological Report 58 (Toronto, 1968) p. 160.) The same pricing basis applies to shipments for 1944 and 1945, although assigned unit values are lower. For 1950-53 production is valued at the average New York price translated into Canadian dollars.

Although the Ontario Ministry of Natural Resources and Statistics Canada methods are identical, there is one year (1943) when the estimates are different for the volume of production. In that year the Statistics Canada estimate is 494,405 pounds of concentrates shipped. The estimate of the value of the product is the same in both data sources, however.

TUNGSTEN: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1940-1953

Year	Volume of Production		Value of Production (Dollars)
	(Pounds)	(Kilograms)	
1940	1 064	482	690
1941	3 830	1 737	2 432
1942	162 185	73 565	145 241
1943	269 039	122 034	356 478
1944	63 152	28 645	5 212
1945	787	356	714
1946	0	0	0
1947	0	0	0
1948	0	0	0
1949	0	0	0
1950	0	0	0
1951	0	0	0
1952	50 734	23 012	164 886
1953	48 780	22 126	132 685

URANIUM

METHODS

The output figures are the uranium oxide content of uranium precipitates or concentrates shipped from the mine, valued at the sum received by the producer.

URANIUM: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1955-1975

Year	Volume of Production ^a		Value of Production ^b (Dollars)
	(Pounds)	(Kilograms)	
1955			487 054
1956	906 614	411 233	9 361 867
1957	7 970 598	3 615 402	82 940 763
1958	19 970 136	9 058 301	10 149 700
1959	25 492 171	11 563 054	68 529 993
1960	19 793 727	8 978 283	11 983 533
1961	14 970 593	6 790 546	51 060 610
1962	12 805 203	5 808 342	18 283 081
1963	12 770 421	5 792 565	92 951 146
1964	11 805 143	5 354 722	63 606 944
1965	6 825 046	3 095 788	47 234 892
1966	5 875 698	2 665 171	42 758 135
1967	5 450 639	2 472 368	41 418 268
1968	5 361 460	2 431 917	39 163 777
1969			40 307 489
1970	6 676 841	3 028 564	
1971	7 009 985	3 179 675	
1972	8 428 053	3 822 900	
1973	8 114 567	3 680 705	
1974	8 442 966	3 829 664	
1975	10 569 539	4 794 262	

^aVolume of production figures for 1955 and 1969 are confidential.

^bValue of production is confidential for 1970-75.

YTTRIUM

METHODS

No information is available on the methods of calculating the volume and value of production. It is probable, though, that production is the yttrium content of shipments, and valued at the sum reported by the producer.

YTTRIUM: VOLUME AND VALUE OF PRODUCTION,
MNR AND SC SERIES, 1966-1975

Year	Volume of Production ^a		Value of Production ^a (Dollars)
	(Pounds)	(Kilograms)	
1966	20 724	9 400	130 223
1967	172 551	78 267	1 594 298
1968	113 330	51 405	936 067
1969	85 443	38 756	671 500
1970			
1971			
1972		0	0
1973			
1974			
1975			

^aThe data for 1970-71 and 1973-75 are confidential.

ZINC

METHODS

Volume of Production

In the years before 1916, Statistics Canada estimates of production are based on the estimated zinc content of ores or concentrates shipped (1899-1904) and the quantity of ore or concentrates shipped (1905-15). Beginning in 1916, production is based on estimated recoverable zinc from concentrates shipped. In 1972, the figures were extended to include refined zinc produced by Texagulf's zinc refinery in Timmins. Beginning in 1975, the recoverable zinc in ores and concentrates shipped was confined to metal paid for.

The General Review of the Mining Industry, 1950 (26-201) states that 'recoverable zinc is computed as the total zinc content, less 160 pounds of zinc per ton of concentrates, as an allowance for smelter losses.' (p.A.-38.) The allowance for smelter losses was changed to ten percent of content in 1972 (S.C., General Review of the Mineral Industries, 1972 (26-201), p. 49).

Statistics Canada methods were not published for 1951 to 1958. It is assumed that the methods used for 1950 applied to these years in computing the volume of production.

The methods of the Ontario Ministry of Natural Resources have been the same as those of Statistics Canada since 1921. Production is for ore shipped from 1899-1918, and in 1919 it is the estimated zinc metal recovered from concentrates refined in the United States.

Value of Production

Statistics Canada methods of valuation are as follows:

1899-1915: shipping values;
 1916-19: average New York price of spelter (zinc);
 1920-25: average St. Louis price for refined zinc;
 1926-39: average London price, expressed in Canadian dollars;
 1940-46: average London price in Canadian dollars, but the average price used was that agreed upon by contract between Canadian producers and the British government;
 1947-50: average New York price translated into Canadian dollars;
 1951-75: average Montreal price.

Valuation methods used by the Ontario Ministry of Natural Resources are the same as those of Statistics Canada from 1921 to 1975. Between 1899 and 1918, the production of zinc ore shipped was valued at the sum reported by the shipper; the zinc metal recovered from concentrates in 1919 was valued as reported by the refinery.

Although the methods used for valuing production for 1951 to 1958 were not published, a secondary source indicates that after 1926 the markets on which the prices for zinc are based are the same as for lead. (See M.C. Urquhart and K.A.H. Buckley (Eds.), Historical Statistics of Canada (Toronto: The Macmillan Company of Canada Limited, 1965), p. 409.)

DATA SELECTION

Along with the Statistical Files data, Statistics Canada figures are presented for the years up to and including 1925. For the years to 1910, production in the Ontario Ministry's series is reported in tons of ore, whereas the Statistics Canada data are recorded as pounds of zinc contained in ores or concentrates (1899-1904) and as tons of ore or concentrates (1905-15). After 1925 there is only one year in which Ontario Ministry of Natural Resources and Statistics Canada figures disagree; that year is 1972, when the Statistics Canada figures are 806,782,141 pounds valued at \$153,861,352. The Statistics Canada figures were not revised.

ZINC: VOLUME AND VALUE OF PRODUCTION,
MNR SERIES, 1899-1975

Year	Volume of Production		Value of Production (Dollars)	Volume of Production		Value of Production (Dollars)
	(Pounds ^a)	(Kilograms ^b)		(Pounds)	(Kilograms)	
1899	1 200	1 089	24 000	1936	0	0
1900	500	454	500	1937	120 011	5 883
1901	1 500	1 361	15 000	1938	0	0
1902	950	862	11 500	1939	0	0
1903	1 150	1 043	17 000	1940	0	0
1904	533	484	3 700	1941	1 100 949	37 553
1905	0	0	0	1942	4 710 394	160 671
1906	400	363	6 000	1943	3 299 812	131 992
1907	0	0	0	1944	2 429 176	104 455
1908	0	0	0	1945	237 799	15 314
1909	895	812	8 950	1946	42 628	3 329
1910	576	523	5 760	1947	0	0
1911	0	0	0	1948	0	0
1912	0	0	0	1949	0	0
1913	0	0	0	1950	0	0
1914	0	0	0	1951	0	0
1915	0	0	0	1952	744 920	130 630
1916	0	0	0	1953	171 787	20 546
1917	0	0	0	1954	1 420 048	170 122
1918	0	0	0	1955	3 095 640	422 555
1919	0	0	0	1956	2 454 297	364 218
1920	0	0	0	1957	22 591 677	2 731 334
1921	0	0	0	1958	92 478 339	10 061 643
1922 ^c	100 283	45 487	2 180	1959	89 963 215	11 011 498
1923	0	0	0	1960	40 806 627	12 076 326
1924	0	0	0	1961	90 459 368	41 031 679
1925	179 545	81 440	13 685	1962	103 874 146	13 077 755
1926	0	0	0	1963	47 116 520	15 278 027
1927	0	0	0	1964	126 264 684	16 989 728
1928	58 724	26 636	3 226	1965	132 939 970	20 426 433
1929	5 516 806	2 502 381	297 190	1966	144 152 666	18 323 817
1930	3 527 894	1 600 225	127 004	1967	155 043 035	74 747 412
1931	0	0	0	1968	164 789 837	24 883 265
1932	0	0	0	1969	537 064 861	243 608 523
1933	0	0	0	1970	693 515 176	77 820 698
1934	0	0	0	1971	314 573 192	97 785 640
1935	0	0	0	1972	720 571 567	326 845 764
				1973	680 484 067	109 743 049
				1974	308 662 380	108 401 112
				1975	731 450 664	122 371 696
				1976	807 219 666	153 944 862
				1977	912 729 270	220 387 609
				1978	960 117 440	335 080 986
				1979	740 427 997	277 660 498
				1980	335 852 489	1979.10

^a1899-1910; short tons of ore.^b1899-1910: tonnes of ore.^cEstimated zinc recovered from concentrates shipped in 1919, and not previously reported.

ZINC: VOLUME AND VALUE OF PRODUCTION,
SC SERIES, 1899-1925

Year	Volume of Production		Value of Production (Dollars)
	(Pounds ^a)	(Kilograms ^b)	
1899	814 000	369 224	46 805
1900	190 400	86 363	8 359
1901	0	0	0
1902	142 200	64 500	6 882
1903	900 000	408 233	48 600
1904	477 568	216 621	24 350
1905	0	0	0
1906	500	454	6 700
1907	217	197	3 000
1908	452	410	3 215
1909	895	812	8 950
1910	576	523	5 760
1911	0	0	0
1912	10	9	375
1913	0	0	0
1914	0	0	0
1915	0	0	0
1916	0	0	0
1917	0	0	0
1918	0	0	0
1919	147 692	66 991	10 838
1920	13 950	6 327	1 070
1921	0	0	0
1922	0	0	0
1923	0	0	0
1924	0	0	0
1925	179 545	81 440	13 685

^a1905-15: short tons of ore or concentrates.^b1905-15: tonnes of ore or concentrates.

GENERAL NOTES ON INPUTS STATISTICS

The principal statistics data for the metal mining industries and the nonferrous smelting and refining industry provide an array of information on inputs, including a variety of series on labour and costs of fuel, electricity and materials. In addition, the principal statistics provide data on the gross value of production and value added.

This section is made up of two groups of data. The first deals with three metal mining industries separately. The industries are gold, iron, and other metal mining industries, and include milling activities. The time period covered is 1965 to 1975. Conceptually the methodology of

the series for these mining industries is internally consistent. There are, however, discontinuities in the second data series, which comprises the nonferrous smelting and refining industry. These inconsistencies arise from the fact that the time period covered is much longer, and changes in methodologies have taken place over time. These changes are identified in the set of explanatory notes that immediately precede the smelting and refining data series.

The principal inputs data are from Statistics Canada sources, and details immediately precede each set of data.

METAL MINING

SOURCES

Principal statistics by mining industry are not published on a provincial basis. The data in this section were obtained from the Minerals Unit, Manufacturing and Primary Industries Division, Statistics Canada.

INDUSTRY CLASSIFICATIONS

The three mining (including milling) industries are defined according to the 1960 Standard Industrial Classification (Statistics Canada, 12-501). The industry definitions are as follows, with STC numbers in brackets:

- i) gold mining includes gold quartz mines (052);
- ii) other metal mining includes copper-gold-silver mines (053), nickel-copper mines (054), silver-cobalt mines (055), silver-lead-zinc mines (056), uranium mines (057), and all other metal mines (059);
- iii) iron mining includes iron mines (058).

CONCEPTS AND DEFINITIONS

The concepts and definitions described below apply to the three metal mining industries. These explanatory notes are based on those contained in D.B.S., Miscellaneous Metal Mines, 1964 (26-219), and which are also reproduced in Gold Mining Industry, 1964 (26-209), Iron Mines, 1964 (26-210), Nickel-Copper Mines, 1964 (26-211), and Silver-Lead-Zinc Mines, 1964 (26-216).

Mining Activity and Total Activity

The data series distinguish between mining activity and total activity. The mining activity concept relates to activities directly associated with the production and marketing of mineral products. The series included under mining activity are: numbers, man-hours paid, and wages, for production and related workers; cost of fuel and electricity; cost of materials and supplies; value of production, mining activity; and value added, mining activity.

Total activity comprises mining and non-mining activities. Non-mining activities include shipments of goods not of own manufacture and other revenue-producing activities.

Shipments of goods not of own manufacture include goods sold in much the same condition as purchased or received.

Other revenue represents the book value of fixed assets produced during the year for use of reporting establishments by the establishment's own employees and for which depreciation accounts are maintained. Also included are revenues from the sale of electricity, servicing revenues, commissions on sales (when not included in value of sales), revenue for company-operated cafeterias and lunch counters and revenue from outside installation or construction work not related to the establishment's own products, sale of used materials, research and development work, and so on. Other revenue does not include non-operating revenue such as rent, dividends and interest.

The tables contain three series for total activity: number of employees, salaries and wages, and value added.

Establishment

The establishment is the reporting unit from which industry principal statistics are derived. A metal mining establishment is a mine or a mine-mill principally engaged in commercial mining activities. In order to qualify as an operating mining entity, the mine (or mine-mill) must be able to report all of the following principal statistics: number of employees and wages and salaries; man-hours worked and paid; fuel and power consumed; materials and supplies used; goods purchased for resale as such; inventories; and shipments or sales.

The number of establishments represents the number of operating units that are principally engaged in the mining industries to which they have been classified.

Production and Related Workers

These include workers engaged directly in mining production activities, and those employed in storing, inspecting, handling, packing, warehousing, and so on. They also include employees engaged in maintenance, repair, janitorial and watchman services, and line supervisors (working foremen) engaged in work similar to that of the employees they supervise.

Production and Related Workers: Number

The number of workers is an average for the year. This is calculated by summing the monthly figures of those receiving pay during the last pay period

of each month and dividing by twelve. This procedure is followed even if an establishment did not operate in all months, in order to arrive at equivalent annual full-time employment.

Production and Related Workers: Man-Hours Paid

Man-hours represent total man-hours paid. Total hours paid include total hours at work during the calendar year plus hours not worked but paid for, such as paid vacations, sick leave, and statutory holidays. Overtime hours are also included, but only hours actually at work.

Wages, and Salaries and Wages

Wages, and salaries and wages, refer to gross earnings of employees before deductions for income tax and employee contributions to social benefits such as sickness, accident, unemployment insurance, and pensions. They include all salaries, wages, bonuses, profits shared with employees, the value of room and board where provided, commissions paid to regular employees, as well as any other allowance forming part of the worker's earnings. Payments for overtime are also included.

Cost of Fuel and Electricity

These figures refer to amounts actually used. Any electricity produced by establishments for own use is not included in the total cost. The values represent the laid-down cost at the establishment including freight and duty. The figure for fuel and electricity used in mining activity also includes relatively small amounts used in non-mining activities.

Cost of Materials and Supplies

These figures represent the laid-down cost at the establishment of materials, supplies and purchased components owned and used during the year in mining activities and related processes. These include only commodity items or physical goods either purchased from others or received as transfers from other establishments of the reporting company. Maintenance and repair supplies not chargeable to fixed assets accounts and any amounts charged by other establishments for work done on materials owned by the reporting establishment are included. Cost of repairs or maintenance done by outside contractors and cost of returnable containers are not included.

Value of Production, Mining Activity

These figures represent the Canadian dollar value of products shipped by the reporting establish-

ments adjusted by changes in value between closing and opening inventory values of goods-in-process and finished products on hand. Revenues from repairs and custom work performed for other establishments and the cost of any goods produced by the mining establishment and shipped on a rental basis are also included. All products and by-products of own production shipped from the establishment are covered, including transfer shipments to sales outlets, distributing warehouses or to other processing plants of the reporting firm, when such units are treated as separate establishments.

Production values are net of returned goods, discounts, returns, allowances, sales tax, excise taxes and duties, returnable containers and charges for outward transportation by common or contract carriers. Transportation or delivery expense incurred by the reporting establishment's own carriers are included.

Value Added, Mining Activity

Value added is computed by deducting the cost of fuel and electricity and the cost of materials and supplies from the value of production.

Number of Employees

Total employees encompass production and related workers in both mining and non-mining activities, administrative and office employees, and sales and distribution personnel. The total includes employees located at head offices and auxiliary units but associated with the reporting establishment. The figures for production and related workers in mining and non-mining activities, administrative and office employees, and sales and distribution personnel are annual averages and represent as closely as possible full-time employment.

Value Added, Total Activity

Value added for total activity is the sum of value added for mining activity and value added for non-mining activity. Value added for non-mining activity is compiled by deducting the cost of goods purchased for re-sale (adjusted for changes in the value of inventories of goods purchased for re-sale) and the cost of non-mining materials and supplies used from the value of shipments of goods not of own manufacture, plus other revenue.

In some cases, total value added may be less than value added for mining activity as a result of expenditures associated with non-mining activities exceeding revenues from such activities, or because of a decrease in inventory of goods not of own manufacture exceeding the mark-up on the sale of such goods.

GOLD MINING: INPUTS STATISTICS, 1965-1975
(Mining Activity)

Year	Number of Establishments	Production and Related Workers				
		Number	Man-Hours Paid		Wages (Dollars)	
1965	31	7 586	15	872 434	32	572 873
1966	28	6 634	13	933 645	31	007 577
1967	22	5 767	11	769 973	27	802 392
1968	24	5 014	10	101 428	25	383 480
1969	20	4 526	9	127 331	23	830 063
1970	16	3 969	7	948 469	22	264 144
1971	14	3 510	7	133 667	20	762 330
1972	12	3 111	6	339 578	20	593 603
1973	10	3 133	6	154 042	22	818 104
1974	10	3 067	6	228 361	28	145 653
1975	12	3 187	6	353 042	35	206 216

GOLD MINING: INPUTS STATISTICS, 1965-1975
(Mining Activity, Dollars)

Year	Cost of Fuel and Electricity	Cost of Materials & Supplies	Value of Production ^a	Value Added
1965	4 256 511	22 731 903	88 651 467	61 663 053
1966	3 694 501	20 280 212	81 887 924	57 913 211
1967	3 412 724	16 487 312	73 187 720	53 287 684
1968	3 054 703	14 915 415	65 817 453	47 847 335
1969	3 145 150	14 318 300	62 855 019	45 391 569
1970	3 179 089	12 980 165	55 834 400	39 675 146
1971	3 027 760	13 883 976	54 081 393	37 169 657
1972	2 798 059	12 106 171	59 764 121	44 859 891
1973	3 120 297	18 062 777	93 724 666	72 541 592
1974	3 556 605	21 516 218	126 752 141	101 679 318
1975	4 131 541	25 136 262	116 449 743	87 181 670

^aThis differs from the value of gold production in the table on gold production (p. 11.3) because the populations of gold producers are different and because gold mines may produce revenue-yielding by-products. First, production figures in the table on gold production include gold produced by gold mines and by base metal mines, whereas the value of production data in this table only apply to gold mines. Second, gold mines may produce by-products, such as silver and copper. Thus the value of production of gold mines includes all products not just the production of gold.

GOLD MINING: INPUTS STATISTICS, 1965-1975
(Total Activity)

Year	Number of Employees	Salaries and Wages (Dollars)	Value Added (Dollars)
1965	8 828	40 498 545	62 809 259
1966	7 695	37 817 983	58 281 543
1967	6 749	34 200 683	53 537 620
1968	5 868	31 595 972	48 154 541
1969	5 306	29 746 156	45 667 075
1970	4 659	28 159 407	39 889 019
1971	4 183	26 182 087	37 286 923
1972	3 715	25 701 344	45 099 596
1973	3 722	28 281 280	72 780 407
1974	3 666	35 000 781	102 032 398
1975	3 770	43 588 148	87 226 268

OTHER METAL MINING^a: INPUTS STATISTICS, 1965-1975
(Mining Activity)

Year	Number of Establishments	Production and Related Workers					
		Number	Man-Hours Paid			Wages (Dollars)	
1965	28	14 063	26	976	304	77	984 923
1966	29	14 725	28	682	510	83	817 736
1967	28	15 233	31	954	649	104	805 454
1968	29	16 174	34	845	380	119	182 967
1969	28	13 244	26	549	109	97	670 450
1970	28	16 896	35	046	632	145	012 900
1971	24	17 541	34	705	196	157	996 728
1972	20	15 667	30	776	299	150	935 350
1973	13	14 782	28	774	446	148	450 361
1974	18	15 353	30	034	644	158	997 651
1975	17	15 856	30	815	877	200	909 081

^aOther metal mining includes SIC classifications copper-gold-silver mines (053), nickel-copper mines (054), silver-cobalt mines (055), silver-lead-zinc mines (056), uranium mines (057), and all other metal mines (059).

OTHER METAL MINING: INPUTS STATISTICS, 1965-1975
(Mining Activity, Dollars)

Year	Cost of Fuel and Electricity	Cost of Materials & Supplies	Value of Production			Value Added	
	1965	7 507 477	200 049 890	585 852 562	378 295 195		
1966	7 664 801	209 539 079	550 544 441	333 340 561			
1967	9 472 255	298 565 521	780 527 605	472 489 829			
1968	10 793 910	329 690 478	880 020 957	539 536 479			
1969	12 517 945	331 561 167	814 721 626	470 642 514			
1970	14 709 228	460 288 018	1 119 999 100	645 001 854			
1971	17 299 513	477 387 952	1 020 767 033	526 079 568			
1972	18 121 255	396 610 007	1 007 944 884	593 162 622			
1973	19 278 630	472 609 344	1 433 486 695	941 598 771			
1974	25 397 368	561 943 885	1 897 884 502	1 310 543 249			
1975	31 458 981	592 341 983	1 628 945 814	1 005 145 120			

OTHER METAL MINING: INPUTS STATISTICS, 1965-1975
(Total Activity)

Year	Number of Employees	Salaries and Wages (Dollars)	Value Added (Dollars)
1965	16 485	97 547 929	383 239 667
1966	17 458	107 085 826	337 566 649
1967	18 513	134 333 135	483 545 080
1968	19 105	146 108 641	543 088 723
1969	16 062	131 023 281	473 241 495
1970	21 582	197 906 133	649 601 191
1971	22 320	218 257 531	530 985 570
1972	20 302	213 582 598	604 217 489
1973	19 786	234 113 741	951 116 121
1974	21 673	255 691 295	1 331 076 827
1975	21 162	292 811 662	1 025 039 853

IRON MINING: INPUTS STATISTICS, 1965-1975
(Mining Activity)

Year	Number of Establishments	Production and Related Workers		
		Number	Man-Hours Paid	Wages (Dollars)
1965	6	2 201	4 486 484	13 863 149
1966	6	2 322	4 887 125	14 936 480
1967	6	2 247	4 838 435	15 216 376
1968	8	2 736	6 021 692	19 885 499
1969	8	2 658	5 809 576	20 466 697
1970	8	2 720	6 083 844	22 985 054
1971	8	2 709	5 854 722	23 393 425
1972	8	2 778	5 948 209	26 563 246
1973	8	2 966	6 328 335	31 402 028
1974	8	3 067	6 501 071	34 707 864
1975	8	3 050	6 426 261	39 750 493

IRON MINING: INPUTS STATISTICS, 1965-1975
(Mining Activity, Dollars)

Year	Cost of Fuel and Electricity	Cost of Materials & Supplies	Value of Production ^a	Value Added
	4 504 035	19 933 619	76 989 056	52 551 402
1966	5 319 059	22 964 321	76 482 228	48 198 848
1967	6 311 109	22 967 733	84 987 849	55 709 007
1968	9 738 415	27 582 157	105 966 319	68 645 747
1969	10 912 273	30 976 147	107 831 947	65 943 527
1970	12 199 075	34 002 088	126 994 391	80 793 228
1971	13 219 809	32 976 631	117 600 093	71 403 653
1972	13 852 422	34 312 805	123 473 774	75 308 547
1973	15 379 471	39 306 544	136 660 171	81 974 156
1974	20 810 438	47 003 714	155 859 119	88 044 967
1975	24 412 737	56 970 104	193 886 133	112 503 292

^aThe value of production figures for iron mining differ from those in the table for iron ore production (p. 12.2) where the value of production figures are based on shipments of iron ores from all sources, including by-product iron ore recovered from base metal mines. For some operators the values of iron ore are on an f.o.b. port basis. By contrast, value of production in this table is on an f.o.b. mine basis and applies only to establishments classified as iron mines, and the output figures are estimates of production of all products of iron mines derived from shipments and changes in inventories.

IRON MINING: INPUTS STATISTICS, 1965-1975
(Total Activity)

Year	Number of Employees	Salaries and Wages (Dollars)	Value Added (Dollars)
1965	2 777	18 297 958	52 548 752
1966	2 897	19 650 612	48 135 669
1967	2 869	20 712 012	56 139 694
1968	3 485	27 024 063	68 607 438
1969	3 360	27 020 610	66 207 158
1970	3 396	30 220 572	81 126 460
1971	3 377	31 327 574	71 608 606
1972	3 452	35 235 024	76 072 747
1973	3 639	40 805 275	82 133 841
1974	3 697	45 237 517	88 014 674
1975	3 739	52 096 680	111 910 699

SMELTING AND REFINING

SOURCES

Dominion Bureau of Statistics, Report on the Manufacturing Industries of the Province of Ontario (31-D-26); Manufacturing Industries of Canada, by Provinces (31-203); Manufacturing Industries of Canada, Section D, Province of Ontario (31-206); Statistics Canada, Manufacturing Industries of Canada, Ontario (31-206); Manufacturing Industries of Canada: National and Provincial Areas (31-203); Smelting and Refining (41-214).

INDUSTRY CLASSIFICATION

Smelting and refining (SIC 295) is classed as a manufacturing industry by Statistics Canada. The classification of manufacturing industries has undergone two changes. The first occurred in 1949 with the adoption of the Standard Industrial Classification (SIC) (1948). The SIC replaced the industry classification scheme based on the nature of materials used by manufacturing establishments. The SIC combines the concept of purpose (nature of output) with the nature of materials used. Second, in 1960, the 1960 SIC supplanted the 1949 SIC. These changes in classification procedure did not affect the continuity of statistics for the Ontario smelting and refining industry.

THE DATA SERIES

The smelting and refining industry series presented here incorporate all available data revisions. The series begin at 1925, although statistics for the industry were inaugurated, in different and abbreviated format, with the preliminary report for 1919. The data were not published for 1920 and 1921 and, curiously, smelting and refining does not appear in published data sources among the leading forty manufacturing industries in Ontario from 1922 to 1924.

CONCEPTS AND DEFINITIONS

The descriptions of concepts and definitions are based mainly on the explanatory notes contained in the following publications of the Dominion Bureau of Statistics: The Manufacturing Industries of Canada, Section A, Summary for Canada, 1952 (31-203); General Review of the Manufacturing Industries of Canada, 1959 (31-201); The Manufacturing Industries of Canada, Section D, Province of Ontario, 1960 (31-206); General Review of the Manufacturing Industries of Canada, 1961 (31-201); Manufacturing Industries of Canada, Section D, Province of Ontario, 1962 (31-

206); Manufacturing Industries of Canada, Section D, Province of Ontario, 1963 (31-206); Smelting and Refining, 1961 (41-214); and Smelting and Refining, 1964 (41-214).

Methodological Changes of the Early 1960s

In the early 1960s, several important methodological changes affecting the series of principal statistics for the manufacturing industries were phased in by Statistics Canada. The major changes included:

- i) the adoption of the 1960 Standard Industrial Classification;
- ii) the implementation of a new concept of the establishment;
- iii) the introduction of the total activity concept;
- iv) the separate recording of head office data at the industry group level.

The collective effect of these changes on the data for the Ontario smelting and refining industry can be traced by examining the revised data series which Statistics Canada carried back to 1957. Comparison of the original and revised data series for 1957 to 1961 discloses that the combined effect of (i), (ii), and (iv) above was negligible. (D.B.S., Manufacturing Industries of Canada, Section D, Province of Ontario, 1962 (31-206), p. 5.)

The introduction of the total activity concept (iii) did not affect the existing series; this involved incorporating additional series into manufacturing industry statistics.

Manufacturing Activity and Total Activity

The data series for smelting and refining distinguish between manufacturing activity and total activity. The manufacturing activity concept relates to activities associated with the production and marketing of smelter and refinery products. The series included under manufacturing activity are: numbers, man-hours paid, and wages for production and related workers; cost of fuel and electricity; cost of materials and supplies; value of production, manufacturing activity; and value added, manufacturing activity.

Total activity comprises manufacturing and non-manufacturing activities. Non-manufacturing activities include shipments of goods not of own manufacture and other revenue-producing activities.

Shipments of goods not of own manufacture include goods sold in much the same condition as purchased or received.

Other revenue represents the book value of fixed assets produced during the year for use of reporting establishments by the establishment's own employees and for which depreciation accounts are maintained. Also included are revenues from the sale of electricity, servicing revenues, commissions on sales (when not included in value of sales), revenue for company-operated cafeterias and lunch counters and revenue from outside installation or construction work not related to the establishment's own products, sale of used materials, research and development work, and so on. Other revenue does not include non-operating revenue such as rent, dividends and interest.

The table contains seven series under total activity: number and salaries of administrative employees; number and salaries and wages of total employees; total cost of materials, supplies and goods for resale; gross value; and value added.

Before 1961 the main emphasis in compiling industry data was on manufacturing activity. The total activity concept was introduced for 1961, and since then the establishment reports on all the activities (with some exceptions) conducted within its accounting boundaries.

Establishment

The establishment is the reporting unit from which industry principal statistics are compiled. An establishment in the smelting and refining industry is a plant engaged mainly in smelting and/or refining nonferrous metals. Beginning with 1961, the establishment is the smallest separate operating entity capable of reporting all of the following accounting data: number of employees and wages and salaries; man-hours worked and paid; fuel and power consumed; materials and supplies used; goods purchased for resale as such; inventories; and shipments or sales. The reporting requirements were essentially the same for the years before 1961 except that employment could be reported as the number of employees, or man-hours, or man-days, and that inventories were to be reported beginning with the census of industry for 1954.

The number of establishments represents the number of operating units that are principally engaged in nonferrous metal smelting and refining.

Production and Related Workers

These include workers engaged directly in manufacturing activities, and those employed in storing, inspecting, handling, packing, warehousing,

and so on. They also include employees engaged in maintenance, repair, janitorial and watchman services, and line supervisors (working foremen) engaged in work similar to that of the employees they supervise.

Production and Related Workers: Number

The number of workers is an average for the year. This is calculated by summing the monthly figures of those receiving pay during the last pay period of each month and dividing by twelve. This procedure is followed even if an establishment did not operate in all months, in order to arrive at equivalent annual full-time employment.

The method for computing the number of wage earners for 1925 to 1930 differed from the procedure used for the years following. Although the source document does not describe the method, it does indicate that the method tended to increase the number somewhat. (D.B.S., Manufacturing Industries of Canada, Section D, Province of Ontario, 1947 (31-203), footnote to table 1, p. 4.)

Production and Related Workers: Man-Hours Paid

Man-hours represent total man-hours paid. Total hours paid include total hours at work during the calendar year plus hours not worked but paid for, such as paid vacations, sick leave, and statutory holidays. Overtime hours are also included, but only hours actually at work. Data for man-hours paid are not available for the years before 1961.

Wages, and Salaries and Wages

Wages, and salaries and wages, refer to gross earnings of employees before deductions for income tax and employee contributions to social benefits such as sickness, accident, unemployment insurance, and pensions. They include all salaries, wages, bonuses, profits shared with employees, the value of room and board where provided, commissions paid to regular employees, as well as any other allowance forming part of the worker's earnings. Payments for overtime are also included.

Cost of Fuel and Electricity

These figures refer to amounts actually used. Any electricity produced by establishments for own use is not included in the total cost. The values represent the laid-down cost at the establishment including freight and duty. The figure for fuel and electricity used in manufacturing activity also includes relatively small amounts used in non-manufacturing activities.

Cost of Materials and Supplies

These figures represent the laid-down cost at the establishment of materials, supplies and purchased components owned and used during the year in manufacturing activities and related processes. These include only commodity items or physical goods either purchased from others or received as transfers from other establishments of the reporting company. Maintenance and repair supplies not chargeable to fixed assets accounts and any amounts charged by other establishments for work done on materials owned by the reporting establishment are included. Cost of repairs or maintenance done by outside contractors and cost of returnable containers are not included.

A major discontinuity occurs in this series between 1960 and 1961, as a result of a change in the method of valuing ores and concentrates used by the smelters and refineries of vertically integrated nonferrous metal mining companies. The procedure before 1961 involved some duplication in smelting and refining of some values already credited to the mines. (This also resulted in an overstatement in the value of production and value added in manufacturing activity.) In addition, there was incomplete coverage of materials and supplies used by the various establishments of the integrated companies.

Also, since no market values exist for the ores and concentrates used as inputs in the smelting and/or refining operations of the integrated companies, the assigned transfer values were not considered realistic. The procedure was changed to treat smelting and refining activities of integrated companies as custom operations whether or not their plants only smelted and refined ores and concentrates from their own mines. This procedure eliminated the need to apply artificial values to the ores and concentrates transferred to the smelters and to value the output of the smelters and refineries in terms of commodities produced.

The revenue from integrated operations has, since 1961, accrued to the mines concerned. This avoids duplication, as was encountered before 1961, in both the mining and in the smelting and refining industries. Thus, since 1961, the revenue from the smelting and refining operations of the vertically integrated companies has consisted mainly of the treatment costs of the ores and concentrates produced by their own mines plus the revenue from custom and toll charges of non-company ores and concentrates.

Value of Production, Manufacturing Activity

The figures for value of production are alternately based on actual production and shipments data. Until 1951, the data are for value of products made. In 1952, a shipments concept was

adopted for computing value of production statistics. It was not possible to derive value of production figures residually for 1952 and 1953 since data for opening and closing inventories were not collected in the census of manufacturers for these years. This oversight was corrected in 1954, making possible the computation of the value of products made. Shipments data only continued to be used as value of production for smelting and refining until 1956 when the output figures were based on production. For 1961 and subsequent years, however, the value of production is the value of shipments.

The value of production in manufacturing activity also includes revenues from repairs and custom work performed for other establishments. The cost of any goods produced by the manufacturing establishment and shipped on a rental basis are also included. All products and by-products of own production shipped from the establishment are included, including transfer shipments to sales outlets, distributing warehouses or to other processing plants of the reporting firm, when such units are treated as separate establishments.

Production values are net of returned goods, discounts, returns, allowances, sales tax, excise taxes and duties, returnable containers and charges for outward transportation by common or contract carriers. Transportation or delivery expense incurred by the reporting establishment's own carriers are included.

Value Added, Manufacturing Activity

The method of computing value added changed a number of times, thereby creating discontinuities in the series. The computation procedures are:

- 1925-34: value of production less cost of materials and supplies;
- 1935-51: value of production less cost of materials and supplies and cost of fuel and electricity;
- 1952-53: value of shipments less cost of materials and supplies and cost of fuel and electricity;
- 1954-60: value of shipments plus (or minus) change in inventories of finished goods less cost of materials and supplies and cost of fuel and electricity;
- 1961-75: value of shipments plus (or minus) change in inventories of finished goods and goods-in-process less cost of materials and supplies and cost of fuel and electricity.

Administrative Employees

This category includes administrative, office, and other non-manufacturing employees. It includes all executives and supervisory officials,

managers, professional and technical employees, superintendents and factory supervisors above the line supervisor or working foreman level, and clerical employees. Also included are employees located at head offices or auxiliary units separately located from the establishment. These figures also include a small number of employees in sales and distribution and any production workers employed in non-manufacturing activities.

Total Employees

This is the total of production and related workers in manufacturing and non-manufacturing activities, administration and office employees, and sales and distribution workers, including employees located at head offices and auxiliary units separately located from the establishment. The figures for production and related workers in non-manufacturing activity, administrative and office employees, and sales and distribution workers are annual averages and represent as closely as possible full-time employment.

Cost of Materials, Supplies and Goods for Resale

These figures represent the cost of materials or products purchased for others by the reporting establishment, or received as transfers from other establishments of the reporting company for resale as such in the same condition as purchased.

Gross Value, Total Activity

This is the sum of the value of production in manufacturing and non-manufacturing activities.

Value Added, Total Activity

Value added for total activity is the sum of value added for manufacturing activity and value added for non-manufacturing activity. Value added for non-manufacturing activity is compiled by deducting the cost of goods purchased for resale (adjusted for changes in the value of inventories of goods purchased for resale) and the cost of non-manufacturing materials and supplies used from the value of shipments of goods not of own manufacture, plus other revenue.

In some cases, total value added may be less than value added for manufacturing activity as a result of expenditures associated with non-manufacturing activities exceeding revenues from such activities, or because of a decrease in inventory of goods not of own manufacture exceeding the mark-up on the sale of such goods.

SMELTING AND REFINING: INPUTS STATISTICS, 1925-1975
(Manufacturing Activity)

Year	Number of Establishments	Production and Related Workers		
		Number ^a	Man-Hours Paid ^b (Thousands)	Wages ^a (\$ Thousand)
1925	4			
1926	5	2 031		2 791
1927	5	2 088		2 919
1928	5	2 350		3 445
1929	5	3 195		4 789
1930	7	3 482		5 182
1931	7	2 552		4 057
1932	6	1 514		2 192
1933	7	2 345		3 196
1934	7	3 321		4 593
1935	8	3 907		5 366
1936	8	4 970		6 678
1937	7	5 981		9 021
1938	7	5 819		8 958
1939	7	5 722		8 924
1940	7	5 594		8 864
1941	7	5 916		10 010
1942	8	6 362		11 529
1943	7	7 180		13 123
1944	7	7 549		13 210
1945	7	6 239		11 701
1946	7	5 271		10 149
1947	7	6 678		13 783
1948	7	6 757		17 579
1949	8	6 642		18 769
1950	8	7 133		20 464
1951	7	8 257		26 090
1952	7	8 688		30 296
1953	7	8 634		32 010
1954	8	8 844		33 394
1955	9	9 102		35 647
1956	9	9 440		39 322
1957	9	9 853		43 492
1958	10	7 018		30 588
1959	9	9 317		42 285
1960	9	9 662		45 378
1961	8	9 322	18 017	45 103
1962	7	8 748	16 654	41 917
1963	7	7 132	14 694	35 130
1964	7	8 112	16 586	40 103
1965	7	9 250	19 467	49 397

SMELTING AND REFINING: INPUTS STATISTICS, 1925-1975
(Manufacturing Activity)

Year	Number of Establishments	Production and Related Workers		
		Number ^a	Man-Hours Paid ^b (Thousands)	Wages ^a (\$ Thousand)
1966	7	9 034	17 578	47 846
1967	7	9 323	19 614	59 648
1968	7	9 031	18 245	60 488
1969	7	6 876	12 951	44 243
1970	7	9 532	19 408	72 031
1971	6	9 321	18 739	77 315
1972	7	7 791	15 798	68 916
1973	9	6 871	14 444	68 030
1974	9	8 468	18 030	87 945
1975	9	6 518	12 960	71 898

^aNot available for 1925.

^bNot available for 1925-1960.

SMELTING AND REFINING: INPUTS STATISTICS, 1925-1975
 (Manufacturing Activity, \$ Thousand)

Year	Cost of Fuel and Electricity ^c	Cost of Materials	Value of Production	Value Added ^d
1925		5 822	27 041	
1926		7 834	25 732	6 383
1927		9 765	27 502	17 737
1928		8 763	37 159	28 397
1929		11 615	48 900	37 285
1930		19 890	47 736	27 846
1931		19 202	41 257	22 056
1932		9 930	22 026	12 096
1933		15 161	43 519	28 358
1934		42 911	85 989	42 288
1935	913	64 210	105 035	39 912
1936	890	87 646	137 345	48 809
1937	7 602	113 911	192 249	70 735
1938	6 749	102 982	166 013	56 281
1939	7 067	83 022	134 727	44 638
1940	8 629	94 257	150 476	47 590
1941		109 879	171 100	51 422
1942		125 824	185 715	49 206
1943		136 259	186 601	38 095
1944		135 906	179 257	31 024
1945		114 647	162 606	37 171
1946		81 917	119 240	29 313
1947		123 405	191 999	57 590
1948		146 219	235 936	76 707
1949		128 963	237 688	95 401
1950		136 504	264 301	113 611
1951		176 377	353 411	161 482
1952	16 669	181 561	348 740	150 509
1953	16 841	197 567	376 501	162 094
1954	18 184	211 607	403 152	173 361
1955	17 573	256 783	492 930	218 574
1956	19 587	300 683	554 056	233 786
1957	20 479	353 813	611 078	236 747
1958	14 573	246 135	427 031	166 323
1959	20 192	342 991	580 200	217 817
1960	20 655	353 517	621 641	247 469
1961	20 474	87 650	181 661	73 538
1962	17 995	97 779	187 511	71 736
1963	16 730	67 798	146 127	61 599
1964	18 541	49 549	133 341	62 251
1965	22 367	46 642	153 948	84 940
1966	21 580	47 807	157 378	87 991
1967	23 624	40 437	169 939	105 878
1968	26 100	48 252	185 983	111 630
1969	18 775	36 331	146 807	91 702
1970	29 893	49 112	212 184	133 179

SMELTING AND REFINING: INPUTS STATISTICS, 1925-1975
(Manufacturing Activity, \$ Thousand)

Year	Cost of Fuel and Electricity ^c	Cost of Material	Value of Production	Value Added
1971	35 341	45 407	231 493	150 745
1972	29 442	41 680	206 167	135 045
1973	32 017	51 055	213 487	130 414
1974	39 766	60 453	275 846	175 627
1975	45 222	55 432	282 800	182 146

^cNot available for 1925-1934, 1941-1951.

^dNot available for 1925.

SMETTING AND REFINING: INPUTS STATISTICS, 1925-1975
(Total Activity)

Year	Administrative Employees		Total Employees	
	Number ^a	Salaries ^a (\$ Thousand)	Number	Salaries and Wages (\$ Thousand)
1925			2 431	3 456
1926	175	502	2 206	3 293
1927	183	538	2 271	3 457
1928	180	545	2 530	3 990
1929	205	613	3 400	5 402
1930	232	733	3 714	5 916
1931	223	726	2 775	4 783
1932	204	604	1 718	2 796
1933	190	591	2 535	3 787
1934	254	776	3 575	5 369
1935	302	928	4 209	6 294
1936	353	1 044	5 323	7 722
1937	399	1 202	6 380	10 223
1938	327	1 066	6 146	10 024
1939	323	1 073	6 045	9 997
1940	669	1 862	6 263	10 726
1941	679	1 989	6 595	11 999
1942	813	2 260	7 175	13 789
1943	873	2 357	8 053	15 480
1944	875	2 452	8 424	15 662
1945	905	2 432	7 144	14 132
1946	832	2 542	6 103	12 691
1947	914	2 994	7 192	16 777
1948	985	3 624	7 742	21 203
1949	1 052	4 145	7 694	22 914
1950	1 149	4 624	8 252	25 089
1951	1 282	5 403	9 359	31 493
1952	1 330	6 247	10 018	36 544
1953	1 378	6 517	10 012	38 527
1954	1 418	7 064	10 262	40 458
1955	1 493	7 722	10 595	43 368
1956	1 545	8 457	10 985	47 779
1957	1 669	9 835	11 522	53 327
1958	1 618	10 601	8 636	41 190
1959	1 628	10 337	10 945	52 622
1960	1 715	11 076	11 377	56 454
1961	1 718	11 361	11 040	56 464
1962	1 739	11 922	10 487	53 840
1963	2 003	13 805	9 135	48 935
1964	1 848	13 476	9 960	53 579
1965	2 010	15 267	11 260	64 664

SMELTING AND REFINING: INPUTS STATISTICS, 1925-1975
(Total Activity)

Year	Administrative Employees		Total Employees	
	Number ^a	Salaries ^a (\$ Thousand)	Number	Salaries and Wages (\$ Thousand)
1966	2 217	18 332	11 251	66 177
1967	2 231	19 622	11 554	79 270
1968	2 487	23 191	11 518	83 679
1969	2 841	26 759	9 717	71 001
1970	3 103	33 270	12 635	105 301
1971	3 533	39 834	12 854	117 149
1972	3 413	41 578	11 204	110 494
1973	1 488	20 895	8 359	88 925
1974	1 505	23 005	9 973	110 951
1975	3 312	54 106	9 830	126 004

^aNot available for 1925.

Smelting and Refining: Inputs Statistics, 1961-1975
(Total Activity, \$ Thousand)

Year	Total Cost of Materials, Supplies and Goods for Resale	Gross Value, Total Activity	Value Added, Total Activity
1961	91 381	185 590	73 884
1962	100 751	190 827	71 931
1963	79 153	159 236	63 353
1964	59 547	145 127	67 039
1965	59 092	170 094	88 635
1966	77 980	185 888	90 174
1967	62 018	197 260	107 702
1968	67 549	207 441	113 792
1969	47 996	159 370	92 583
1970	81 029	248 029	137 086
1971	72 317	262 778	155 120
1972	53 343	221 179	138 394
1973	59 773	226 456	134 666
1974	69 840	290 914	181 308
1975	59 767	295 550	190 561

GENERAL NOTES ON EXPLORATION STATISTICS

SOURCES

Ontario, Department (Bureau) of Mines, Annual Reports; Ontario, Ministry of Natural Resources, Statistical Reports on the Mineral Industry of Ontario; Dominion Bureau of Statistics, Annual Reports on the Mineral Production of Canada (26-201); Statistics Canada, Contract Drilling for Petroleum and Other Contract Drilling (26-207).

CONCEPTS AND DEFINITIONS

Mining Claims

Provision for the staking and registering of mining claims was implemented by the Ontario government in 1897. Since then, the standard size of a mining claim has been 40 acres.

Miners' Licences

Miners' licences were first issued in 1897. Licences have been issued either in the field at the offices of the mining districts, or, in instances where claims are not located within an established mining division or when mining division offices are closed, at the Ministry office in Toronto.

Mining Land Sales and Leases

A consistent set of data appears to exist for mining land sales since 1891. Before 1891, sales of mining lands were stipulated as being located in unsurveyed territory only. Data on leases of mining lands begin in 1891.

The data for sales and leases are on a fiscal-year basis, in contrast to the other indicators of exploration activity which are for the calendar year. The fiscal year of Ontario has undergone two changes since 1908, as shown below:

1891-1908: the calendar year;
 1909/10 to 1933/34: 1 November - 31 October;
 1935/36 to the present (1979): 1 April - 31 March.

As a result of the changes in the fiscal year, there are variations in the meaning of the time-period coverage by year in the data between the two sub-periods beginning with 1909. These are identified in footnotes to the table.

Publication of data on mining lands sales and leases was discontinued after 1943.

Contract Drilling

The first year of published data on contract drilling is 1936. No data were published for 1937, however. From the outset, each of the individual series in contract drilling appears to be conceptually consistent over time, except that the number of employees for 1939 includes part-time employees.

It was not until 1961 that the distinction (an important distinction in providing an indicator of exploration activity) was made between surface and underground footage drilled. Until 1961 only the total footage drilled was given.

The data for contract drilling should be treated with some reservation. They are probably incomplete because, among other reasons, the operators are numerous and geographically far-flung, working in isolated areas. Consequently, this may result in less than full coverage of the population of contract drillers.

MINING CLAIMS RECORDED AND CANCELLED, 1897-1974

Year	Recorded	Cancelled ^{b,c}	Year	Recorded	Cancelled
1897	225	0	1941	4 254	10 514
1898	266		1942	3 593	9 028
1899	215		1943	5 232	3 057
1900	452		1944	12 527	2 376
1901	164		1945	16 362	3 657
1902	126		1946	23 763	6 003
1903	97		1947	12 913	18 116
1904	70		1948	9 029	13 932
1905 ^a			1949	14 420	11 829
1906	483		1950	14 233	17 735
1907	13 996		1951	13 403	9 265
1908	4 634		1952	16 009	13 789
1909	9 746		1953	29 019	18 178
1910	5 792		1954	50 176	21 777
1911	9 001	361	1955	57 367	41 578
1912	3 104		1956	47 997	45 940
1913	4 320	442	1957	30 947	54 332
1914	1 913	7 913	1958	23 980	39 548
1915	2 519	1 093	1959	26 031	26 395
1916	2 470	1 911	1960	18 474	30 717
1917	1 936	602	1961	16 623	21 701
1918	1 534	304	1962	17 157	18 917
1919	2 918	1 481	1963	17 407	17 247
1920	2 160	2 203	1964	51 547	15 545
1921	2 459	1 791	1965	38 757	28 500
1922	5 686	1 490	1966	39 097	42 726
1923	6 092	2 328	1967	32 271	39 693
1924	5 222	2 804	1968	38 705	31 629
1925	4 751	2 460	1969	45 852	31 621
1926	13 496	5 322	1970	40 693	36 867
1927	15 554	5 537	1971	24 410	42 501
1928	15 046	3 662	1972	19 267	37 753
1929	8 207	8 090	1973	18 170	30 164
1930	3 886	8 887	1974	22 097	18 285
1931	5 779	10 885			
1932	4 945	15 425			
1933	8 077	4 813			
1934	16 888	5 041			
1935	9 460	9 240			
1936	17 280	6 653			
1937	15 292				
1938	9 047	8 978			
1939	6 772	9 086			
1940	4 667	7 242			

^aNot available.^bNot available for 1898-1910, 1912.^cThe cancellation of claims in Eastern Ontario and the Parry Sound district is included for the years 1951 to 1974 only.

MINERS' LICENCES ISSUED, 1897-1974^a

Year	New	Renewals	New and Renewals
1897	250	0	250
1898	134 ^b	69	203
1899 ^c			252
1900			271
1901			187
1902			132
1903			101
1904			89
1905 ^d			
1906			536
1907			11 473
1908			5 923
1909	7 413	4 676	12 089
1910	4 277	5 585	9 862
1911	3 816	4 647	8 463 ^e
1912	2 030	4 815	6 845
1913	2 251	3 139	5 390
1914	1 188	3 206	4 394
1915 ^d			
1916	201	346	607
1917 ^d			
1918	1 013	2 006	3 019
1919	1 854	2 262	4 116
1920	1 461	2 883	4 344
1921	1 481	2 113	3 594
1922	3 247	3 101	6 348
1923	2 844	3 704	6 548
1924	2 676	4 466	7 142
1925	2 391	4 439	6 830
1926	6 631	5 521	12 152
1927	6 923	7 221	14 144
1928	6 059	8 688	14 747
1929	3 271	8 049	11 320
1930	1 554	5 885	7 439
1931	2 194	4 808	6 982
1932	2 035	3 670	5 705
1933	3 365	3 911	7 276
1934	7 409	4 757	12 166
1935	3 335	5 113	8 448
1936	7 170	5 961	13 131
1937	5 511	8 344	13 855
1938	3 445	6 224	9 669
1939	2 096	5 617	7 713
1940	1 000	4 470	5 470

Year	New	Renewals	New and Renewals
1941	1 009	3 225	4 234
1942	1 178	3 224	4 402
1943	1 341	2 073	3 414
1944	2 734	2 873	5 607
1945	3 275	3 821	7 096
1946	3 876	5 176	9 052
1947	2 072	5 127	7 199
1948	1 817	4 199	6 016
1949	3 247	4 043	7 290
1950	2 295	3 993	6 288
1951	2 386	3 858	6 244
1952	2 323	4 747	7 070
1953	5 213	4 133	9 346
1954	8 736	6 277	15 013 ^e
1955	8 673	7 177	15 850
1956	5 079	7 195	12 274
1957	3 300	5 978	9 278
1958	2 449	4 595	7 044
1959	2 321	4 251	6 572
1960	1 893	3 862	5 755
1961	1 796	3 663	5 459
1962	1 788	3 486	5 274
1963	1 824	3 332	5 156
1964	4 879	3 411	8 290
1965	2 925	5 010	7 935
1966	2 863	4 765	7 628
1967	1 882	4 313	6 195
1968 ^f			6 135
1969			5 115
1970			4 651
1971			4 502
1972			4 194
1973	1 287	2 601	3 888
1974	1 252	2 518	3 770

MINERS' LICENCES ISSUED, 1897-1974^a

^aData for the earlier years of these series are patchy in that the mining licences issued through some of the offices are not included. The data exclusions, with their accompanying dates, are as follows;

1906: Temiskaming Mining Division (established 1905) and Toronto office;
1907: Parry Sound; Larder Lake Mining Division (established 1907); Toronto office;
1908: Sudbury and Toronto office;
1909: Toronto office;
1910: Parry Sound and Toronto office;

1911-14,

1918-19,

1921: Toronto office;

1916: Includes Parry Sound and Sudbury only.

^bDerived residually.

^cFigures available only for newly-issued and renewed licences combined for 1899-1904 and 1906-1908.

^dNot available.

^eThe total number of licences issued and renewed is not contained in the source documents for 1911-21 and 1954-66.

^fFigures for new issues and for renewals were not published for 1968-72.

MINING LAND SALES AND LAND LEASES, 1891-1943
(Acres)

Year	Sales	Leases
1891	59 389	4 998
1892	6 200	13 122
1893	4 370	13 047
1894	3 271	7 050
1895	7 720	15 084
1896	10 734	13 224
1897	29 794	86 014
1898	19 529	48 911
1899	35 049	63 258
1900	30 972	28 127
1901	11 302	28 699
1902	3 985	25 549
1903	6 437	33 427
1904	3 440	11 002
1905	3 144	19 914
1906	4 877	13 384
1907	9 310	8 194
1908	7 559	4 918
1909 ^a	10 709	3 296
1910 ^b	17 276	9 029
1911	27 924	10 292
1912	19 333	16 712
1913	34 375	9 313
1914	17 384	5 838
1915	17 278	2 092

^aTen months, 1 January to 31 October.^b1910-34: fiscal year 1 November - 31 October.

Year	Sales	Leases
1916	14 592	5 858
1917	20 154	4 962
1918	12 126	3 119
1919	10 600	2 137
1920	15 406	5 678
1921	11 186	5 196
1922	13 320	12 011
1923	13 004	6 806
1924	14 280	7 735
1925	16 657	5 251
1926	12 730	6 031
1927	21 913	5 535
1928	28 189	3 660
1929	27 713	3 100
1930	15 012	4 610
1931	10 948	3 944
1932	8 619	4 229
1933	14 139	4 524
1934	15 786	5 208
1935 ^c	19 039	4 098
1936	13 700	8 798
1937	31 197	10 804
1938	22 704	10 815
1939	28 112	15 709
1940	22 521	7 644
1941	30 128	3 099
1942	17 092	2 868
1943	15 736	791

^c1935-43: fiscal year 1 April - 31 March. For the five months 1 November 1934 - 31 March 1935, the data source records 11,857 acres sold and 690 acres leased.

CONTRACT DRILLING OPERATIONS, 1936-1975

Year	Feet Drilled			Income From Drilling (Dollars)	Number of Employees	Salaries and Wages Paid (Dollars)
	Surface	Underground	Total			
1936 ^a			830 350	2 203 023	470	715 039
1937 ^b						
1938		1 315 621		2 146 904	910	1 026 178
1939		1 212 174		1 747 290	1 858 ^c	929 886
1940		1 302 848		1 556 927	707	829 341
1941		1 653 075		1 736 464	866	913 873
1942		1 536 954		1 554 116	553	815 821
1943		1 417 935		1 763 124	508	820 591
1944		1 348 812		2 031 096	680	1 042 491
1945		1 676 076		2 817 502	788	1 331 532
1946		2 541 084		4 809 742	1 162	2 058 747
1947		1 493 597		2 605 154	836	1 359 526
1948		1 314 308		2 289 161	569	1 169 356
1949		1 650 338		2 734 168	553	1 262 688
1950		1 975 301		3 909 931	872	2 029 791
1951		1 946 883		4 862 666	1 131	2 545 608
1952		2 237 431		5 914 306	1 035	2 959 444
1953		1 565 751		4 760 670	854	2 326 869
1954		2 454 373		7 309 992	1 118	3 558 279
1955		3 424 492		12 042 444	1 543	5 407 353
1956		2 465 846		9 402 606	1 265	4 125 180
1957		2 145 334		7 182 542	1 066	3 407 981
1958		1 513 190		3 894 204	523	2 284 065
1959		1 938 118		5 052 204	579	2 335 440
1960		2 271 650		6 231 578	668	2 755 402
1961	775 547	1 113 647	1 889 194 ^d	5 331 059	609	2 329 342
1962	865 724	1 142 094	2 007 818	5 774 148	621	2 518 933
1963	797 988	1 211 733	2 009 721	5 714 857	642	2 700 423
1964	1 247 917	1 236 486	2 484 403	8 366 659	867	4 099 039
1965	1 421 296	1 045 879	2 467 175	9 347 469	821	4 308 109
1966	989 235	961 807	1 951 042	8 164 763	660	3 674 925
1967	823 295	956 871	1 780 166	7 605 561	626	3 704 247
1968	976 311	927 045	1 903 356	9 826 311	843	5 355 400
1969	1 271 623	976 213	2 247 836	12 430 222	1 028	6 866 332
1970	1 084 340	1 032 450	2 116 790	12 893 312	958	7 013 241
1971	752 487	793 388	1 545 875	9 641 769	672	5 178 330
1972	620 567	598 694	1 219 261	7 587 198	512	4 375 230
1973	589 121	570 591	1 159 712	6 261 925	449	4 306 796
1974	655 390	461 924	1 117 314	9 827 464	445	4 575 105
1975	879 044	415 579	1 294 623	16 716 571	451	5 644 619

^aSeparate data for surface and underground footage drilled not available for 1936-60.^bFigures not available for 1937.^cIncludes part-time employees.^dTotal not given in data sources for 1961-75.

GENERAL NOTES ON MINING REVENUE STATISTICS

SOURCES

There appear to be few raw data in Ministry files on provincial government revenue collected from the mining industry. The researchers were advised by the Mining Tax Assessment Section of the Mineral Resources Branch that files containing raw data are deposited, to the extent they exist, at the Records Centre in Mississauga. The researchers did not visit the Records Centre, however. Instead, the time series data on provincial mining revenue are constructed from the Annual Reports of the Division (Department) of Mines and the Public Accounts of the Province of Ontario. After 1957, the Annual Reports do not contain provincial mining revenue data.

THE FISCAL YEAR

The data series all apply to the fiscal year. Since 1891, however, the fiscal year of the Province of Ontario has been changed as follows:

1891-1908: the calendar year;
 1909/10 to 1935/36: 1 November - 31 October;
 1935/36 to the present (1979): 1 April - 31 March.

As a result of the changes in the fiscal year, there are variations in the meaning of the time-period coverage by year in the data tables between the two sub-periods beginning with 1909. These are identified in footnotes to the tables.

THE DATA SERIES

Wherever possible, the data series are carried back to 1891. It appears, however, that for certain series (royalties and prospecting activity) there are discontinuities at 1906-07 which appear to be due to factors other than policy-induced effects.

All revenue series are receipts, as opposed to assessments, for the fiscal year.

Two principles have been adopted in presenting the various data series on provincial mining revenue. First, the series here are organized, to the extent possible, by function. (In the data sources, the series are organized in a variety of ways over time.) Every attempt has been made to assign reported data to one of the functional categories that have been established for this part of the statistical compendium.

The second principle requires the presentation of data in highly disaggregated form. For three of the groups, however, the smallness of the numbers and the tattered time-series appear to warrant a preparation of totals only. The groups with aggregates only are: sales of goods and services; miscellaneous licences and permits; and miscellaneous revenue. The contents of these groups, as in the case of the other revenue series groups, are detailed below.

For the totals of each revenue group, the procedure has been to rely on published totals. Where independent summations have been carried out, this will be indicated. Finally, all data are rounded to the nearest dollar. For this reason totals may not be identical to sums of the constituent series.

CONCEPTS AND DEFINITIONS

Mining Land Sales and Leases

Revenue from the sale of lands in fee simple requires comment on only one point. The disproportionately large figure for 1907 is due to the sale of the beds of Cobalt and Kerr Lakes at public tender in December 1906 and January 1907. Sales were made on the condition that the buyer paid 10 percent of the price at the time of purchase. ('Annual Report of the Minister of Lands, Forests and Mines, 1907,' Sessional Papers Ontario 40 (1908), no. 3, p. vii.)

Land leases comprise mining land leases, licences of occupation, and gas leases.

Prospecting Activity

Grouped under prospecting activity are miners' licences, Temagami Forest Reserve permits (designated in this series as permits), and fees charged for recording mining claims.

Up to and including 1920, totals only are provided in the published sources, although the accounts are itemized for 1907, and 1911 through to 1913. The total for 1898 has been derived residually, and the totals for the years 1926 to 1944 have been aggregated from the source documents.

For 1969 and 1970, the revenue from miners' licences is assigned, in an unspecified amount, to the total for miscellaneous licences and permits.

Royalties

The first record of mining royalty payment is for 1906.

Royalties on sand and gravel include an unspecified sum received for sand and gravel licences for the years 1916 and 1917. The entries under sand and gravel royalties for 1972 to 1976 are designated as metallic and nonmetallic mining royalties in the Public Accounts. This aggregate includes salt mining royalties.

The total of royalty revenues are calculated from the source documents for 1916, 1923, and 1972 to 1976.

Taxes

Taxes on mining operations include the mining profits tax, gas tax, and acreage tax. These taxes were implemented in 1907 under the Supplementary Revenue Act (S.O., 1907, c. 9). Although the levy on natural gas production is termed a tax, it is, in effect, a royalty. For the years 1907 to 1912, the Annual Reports of the Bureau of Mines provide two revenue schedules which distinguish actual receipts for the year and the amounts collected and belonging to the particular fiscal year. The data presented here are the actual receipts.

Sales of Goods and Services

The major share of revenues from the sales of goods and services is from laboratory fees, including chemical and assay fees, sampling and assay fees, and cable-testing fees. The second important sub-group is sales of record books, blueprints and maps.

In addition, there is an assortment of other items, one of which merits special attention. The relatively large totals for 1907 and 1908 are mainly associated with the Provincial Mine (on the Gillies Limit) and include: sales of ore from the mine in 1907 (\$12,593) and proceeds from the sale of the mine in 1908 (\$113,111).

The totals are derived by summing the various accounts from the sources for all years. The total for 1970 and 1971 includes only laboratory fees and sales of record books, blueprints and maps. Since 1972, revenue from the sales of goods and services to the mining industry is not available as a separate account.

Miscellaneous Licences and Permits

This primarily includes licences and permits for: sand and gravel; quarrying; natural gas; refining; and boring. A variety of other kinds of permits are included from time to time. The major component, however, is sand and gravel and quarrying licences.

Revenue from sand and gravel licences for 1916 and 1917 is included in sand and gravel royalties. The grand totals for 1969 and 1970 include revenue from miners' licences. Beginning with 1969, the data source provides only a total for this group. The revenue totals for 1919 to 1968 have been calculated from the sources.

Miscellaneous Revenue

The totals have been computed from a variety of leftovers that have been arbitrarily assigned to a miscellaneous revenue account, including casual fees, Natural Gas Commission office fees, sulphur fumes arbitrator damages collection, refunds, and assorted other items. None of the individual accounts encompass the entire 1916-69 period, and all were apparently allocated to other accounts after 1969.

PROVINCIAL MINING REVENUE: MINING LAND SALES,
1891-1976
(Dollars)

Year	Land Sales
1891	117 514
1892	15 273
1893	11 498
1894	7 646
1895	15 868
1896	22 084
1897	59 478
1898	40 469
1899	75 367
1900	69 196
1901	24 865
1902	8 203
1903	22 242
1904	18 242
1905	7 390
1906	118 244
1907	1 184 719
1908	23 445
1909 ^a	235 098
1910 ^b	327 160
1911	64 268
1912	51 634
1913	95 069
1914	41 028
1915	46 585
1916	36 579
1917	57 054
1918	33 536
1919	28 511
1920	39 095
1921	25 834
1922	28 496
1923	30 043
1924	83 823
1925	40 694
1926	38 578
1927	43 709
1928	73 937
1929	76 512
1930	28 243
1931	33 013
1932	17 918
1933	37 637
1934	54 592
1935 ^c	49 103

^aTen months, 1 January to 31 October.^b1910-34: fiscal year 1 November - 31 October.

Year	Land Sales
1936	77 039
1937	71 449
1938	61 323
1939	74 378
1940	65 199
1941	70 960
1942	40 100
1943	39 413
1944	45 898
1945	100 811
1946	134 536
1947	79 147
1948	36 314
1949	39 879
1950	81 842
1951	92 778
1952	91 375
1953	64 271
1954	112 186
1955	183 398
1956	228 426
1957	166 088
1958	77 938
1959	40 702
1960	62 451
1961	40 682
1962	66 302
1963	102 347
1964	2 209
1965	3 129
1966	2 781
1967	11 930
1968	1 742
1969	0
1970	0
1971	908
1972	2 635
1973	1 938
1974	1 691
1975	1 518
1976	32 015

^c1935-76: fiscal year 1 April - 31 March.
Revenue for the five months 1 November - 31 March 1935 is \$32,403.

PROVINCIAL MINING REVENUE: LEASES, 1891-1976
(Dollars)

Year	Mining Land Leases	Licences of Occupation	Gas Leases	Total Leases
1891	4 886	0	0	4 886
1892	12 917	0	0	12 917
1893	14 670	0	0	14 670
1894	10 297	0	0	10 297
1895	18 211	0	0	18 211
1896	18 504	0	0	18 504
1897	91 062	0	0	91 062
1898	57 493	0	0	57 493
1899	75 608	0	0	75 608
1900	36 297	0	0	36 297
1901	41 635	0	0	41 635
1902	39 459	0	0	39 459
1903	46 296	0	0	46 296
1904	25 321	0	0	25 321
1905	39 547		0	39 547
1906	46 621	0	0	46 621
1907	21 563	0	0	21 563
1908	20 612	0	0	20 612
1909 ^a	19 017	0	0	19 017
1910 ^b	29 009	0	0	29 009
1911	25 797	0	0	25 797
1912	33 098	0	0	33 098
1913	20 878	0	0	20 878
1914	16 470	0	0	16 470
1915	13 842	0	0	13 842
1916	16 218	0	0	16 218
1917	16 845	0	0	16 845
1918	14 009	0	0	14 009
1919	14 271	0	0	14 271
1920	22 412	0	0	22 412
1921	13 655	5 208	0	18 863
1922	13 483	6 785	0	20 267
1923	9 563	6 010	0	15 573
1924	12 019	5 342	0	17 361
1925	11 390	6 164	25	17 579
1926	11 288	4 784	50	16 122
1927	8 655	1 846	3 700	14 201
1928	7 450	2 692	3 750	13 892
1929	7 151	1 948	3 750	12 849
1930	4 708	2 856	7 400	14 964
1931	4 761	2 266	5 000	12 026
1932	3 494	1 858	4 100	9 452
1933	5 920	3 424	4 100	13 445
1934	7 600	5 908	4 100	17 608
1935 ^c	8 986	5 262	5 770	20 018

PROVINCIAL MINING REVENUE: LEASES, 1891-1976
(Dollars)

Year	Mining Land Leases	Licences of Occupation	Gas Leases	Total Leases
1936	11 626	11 567	5 382	33 576
1937	12 486	8 259	6 370	27 115
1938	11 123	6 935	5 870	23 929
1939	13 084	8 615	8 146	29 844
1940	14 404	9 858	18 967	43 229
1941	11 940	10 894	20 145	42 979
1942	10 854	6 861	14 595	32 311
1943	10 219	9 613	13 715	33 547
1944	15 165	15 716	14 395	45 276
1945	13 961	16 913	14 395	45 269
1946	16 256	17 443	14 095	47 794
1947	15 549	16 711	14 095	46 355
1948	14 852	12 148	14 860	41 860
1949	15 938	13 178	15 421	44 536
1950	15 673	16 784	14 652	47 109
1951	17 589	14 042	16 627	48 259
1952	18 022	18 667	19 549	56 238
1953	31 187	18 205	40 737	90 129
1954	28 132	25 698	58 592	112 422
1955	31 336	26 382	75 679	133 397
1956	34 387	26 523	73 102	134 012
1957	35 192	23 906	263 633	322 732
1958	38 149	24 488	427 840	490 497
1959	39 536	30 171	216 612	286 318
1960	47 642	19 871	180 759	248 273
1961	60 505	33 278	241 960	335 743
1962	51 498	33 658	239 339	324 495
1963	58 032	31 180	229 727	318 940
1964	66 353	40 652	184 388	291 393
1965	48 879	27 662	176 789	253 330
1966	81 054	33 480	161 346	275 881
1967	67 362	40 986	535 385	643 733
1968	73 413	60 443	523 657	657 513
1969	119 968	122 889	464 213	707 070
1970	107 477	117 839	421 642	646 958
1971	130 242	121 905	321 804	573 951
1972	116 374	97 026	529 846	743 246
1973	109 647	128 854	620 066	858 567
1974	120 367	104 797	765 232	990 396
1975	155 758	115 252	479 281	750 291
1976	145 197	69 970	440 842	656 009

^aTen months, 1 January to 31 October.^b1910-34: fiscal year 1 November - 31 October.^c1935-76: fiscal year 1 April - 31 March. Revenue for the five months 1 November 1934 - 31 March 1935 is: mining land leases, \$3,003; licences of occupation, \$4,534; gas leases, \$400; total leases, \$7,937.

PROVINCIAL MINING REVENUE: PROSPECTING ACTIVITY,
1897-1976
(Dollars)

Year	Revenue
1897	3 021
1898	3 223
1899	4 979
1900	6 801
1901	4 405
1902	2 742
1903	2 241
1904	1 597
1905	14 623
1906	70 256
1907	272 397
1908	137 730
1909 ^a	219 474
1910 ^b	193 682
1911	211 769
1912	107 163
1913	93 256
1914	64 195
1915	52 309
1916	66 907
1917	62 256
1918	52 272
1919	63 963
1920	59 098
1921	51 472
1922	87 295
1923	93 079
1924	95 272
1925	86 483
1926	172 463
1927	222 935
1928	256 943
1929	169 756
1930	96 599
1931	103 327
1932	82 732
1933	116 197
1934	220 020
1935 ^c	176 454

^aTen months: 1 January to 31 October.

^b1910-34: fiscal year 1 November - 31 October.

Year	Revenue
1936	304 155
1937	189 133
1938	159 142
1939	108 971
1940	85 960
1941	72 333
1942	56 237
1943	90 049
1944	147 323
1945	222 295
1946	229 238
1947	212 353
1948	171 656
1949	197 469
1950	200 583
1951	205 924
1952	228 639
1953	419 004
1954	501 130
1955	761 378
1956	663 985
1957	421 544
1958	399 492
1959	362 293
1960	291 555
1961	261 352
1962	253 692
1963	292 125
1964	711 053
1965	561 546
1966	573 603
1967	634 115
1968	696 116
1969	700 055
1970	604 624
1971	462 368
1972	524 540
1973	526 482
1974	545 670
1975	559 909
1976	511 307

^c1935-76: fiscal year 1 April - 31 March.

Revenue for the five months November 1934 - 31 March 1935 is \$51,392.

PROVINCIAL MINING REVENUE: ROYALTIES, 1906-1976
(Dollars)

Year	Mining Royalties ^a	Sand and Gravel Royalties ^b	Gas and Oil Royalties ^c	Salt Royalties ^d	Total Royalties
1906	15 000 ^e				15 000
1907	207 945				207 945
1908	218 072				218 072
1909 ^f	338 427				338 427
1910 ^g	246 529				246 529
1911	285 913				285 913
1912	250 146				250 146
1913	200 333				200 333
1914	74 685				74 685
1915	52 861				52 861
1916	15 084	14 680 ^h			29 764
1917	0	28 373 ^h			28 372
1918	0	29 464			29 464
1919	0	25 218			25 218
1920	0	99 325			99 325
1921	0	131 001			131 001
1922	81 014	100 955			181 968
1923	1 746	80 742			82 489
1924		107 185			107 185
1925		98 118			98 118
1926		106 197			106 197
1927		124 854			124 854
1928		127 417			127 417
1929		134 885			134 885
1930		278 157			278 157
1931		81 345			81 345
1932		51 060			51 060
1933		16 022			16 023
1934		21 690			21 690
1935 ⁱ		24 334			24 334
1936		43 979			43 979
1937		55 008			55 008
1938		48 739			48 739
1939		29 530			29 530
1940		45 433			45 433
1941		57 761			57 761
1942		59 802			59 802
1943		50 044			50 044
1944		42 869			42 869
1945		38 601			38 601
1946		56 977	200		57 177
1947		78 451	200		78 651
1948		81 522	200		81 722
1949		89 188	250		89 438
1950		88 634	350		88 984

PROVINCIAL MINING REVENUE: ROYALTIES, 1906-1976
(Dollars)

Year	Mining Royalties	Sand and Gravel Royalties	Gas and Oil Royalties	Salt Royalties	Total Royalties
1951		91 144	450		91 594
1952		90 507	450		90 957
1953		112 411	150		112 561
1954		110 106	2 287		112 394
1955		176 173	3 713		179 885
1956		198 427	5 897		204 324
1957		322 462	11 217		333 679
1958		245 078	22 952		268 030
1959		222 910	34 937		257 847
1960		215 474	77 190		292 663
1961		190 856	87 457		278 313
1962		209 180	114 007		323 186
1963		145 968	117 305		263 273
1964		184 632	164 041		348 673
1965		208 141	159 044		367 184
1966		270 404	157 925		428 329
1967		261 583	150 745		412 329
1968		240 153	109 676	60 679	410 508
1969		256 097	94 998	82 546	433 642
1970		251 176	63 752	223 480	538 408
1971		447 749	202 788	141 686	792 223
1972 ^k		634 595 ^j	86 050		720 645
1973		561 530	182 932		744 462
1974		647 809	116 130		763 939
1975		631 692	204 613		836 305
1976		646,255	173,712		819 967

^aThere are no revenues from mining royalties after 1923.^bRevenue from sand and gravel royalties begins in 1916.^cCollection of gas and oil royalties begins in 1946.^dThe first year for revenue from salt royalties is 1968.^eThe first year of recorded revenues from mining royalties.^fTen months: 1 January - 31 October.^g1910-34: fiscal year 1 November - 31 October.^hIncludes an unspecified amount of revenue from sand and gravel rentals.ⁱ1935-76: fiscal year 1 April - 31 March. Revenue from sand and gravel royalties and from total royalties, for the five months 1 November 1934 - 31 March 1935 is \$12,225.^jDescribed in data sources as royalties from metallic and nonmetallic mining for 1972-76.^kIncluded under sand and gravel royalties, 1972-76.

PROVINCIAL MINING REVENUE: TAXES, 1907-1976
(Dollars)

Year	Mining Profits Tax	Gas Tax	Acreage Tax	Total Taxes
1907	26 922	11 527	5 004	43 453
1908	100 539	15 037	9 502	125 078
1909 ^a	28 813	10 720	10 198	49 730
1910 ^b	120 688	7 128	15 394	143 210
1911	176 314	18 576	14 571	209 462
1912	155 507	19 598	15 771	190 876
1913	173 533	23 615	13 916	211 064
1914	272 611	24 204	10 046	306 861
1915	139 979	26 407	10 716	177 102
1916	140 560	33 630	12 637	186 827
1917	1 503 968	39 228	14 348	1 557 543
1918	863 548	26 359	29 302	919 209
1919	553 027	38 798	33 126	624 951
1920	713 291	22 526	71 223	807 041
1921	183 822	21 450	37 581	242 853
1922	160 994	16 742	34 760	212 496
1923	253 126	15 768	31 318	300 213
1924	191 982	15 378	37 208	244 568
1925	287 187	14 272	32 165	333 624
1926	410 974	12 584	33 431	456 989
1927	340 890	13 390	36 755	391 035
1928	356 034	12 704	81 452	450 190
1929	397 004	13 603	33 541	444 148
1930	502 525	15 311	30 741	548 577
1931	480 301	14 903	30 602	525 805
1932	515 154	67 832	20 618	603 603
1933	679 731	33 578	30 692	744 000
1934	1 073 824	32 002	35 447	1 141 273
1935 ^c	1 400 656	33 626	42 554	1 476 836
1936	1 563 681	34 906	78 231	1 676 818
1937	1 801 500	44 170	49 386	1 895 056
1938	2 128 007	48 079	46 934	2 223 020
1939	1 906 739	50 237	44 769	2 001 745
1940	2 002 908	56 632	52 952	2 112 493
1941	2 390 934	62 055	40 083	2 493 072
1942	2 262 770	54 236	43 727	2 360 733
1943	1 850 513	50 182	37 355	1 938 050
1944	1 420 411	37 766	44 653	1 502 830
1945	1 820 834	32 820	71 137	1 924 792
1946	900 125	35 564	99 548	1 035 237
1947	2 266 659	32 220	104 594	2 403 472
1948	2 681 344	30 102	122 379	2 833 825
1949	2 720 680	33 764	114 096	2 868 540
1950	3 824 796	31 144	117 647	3 973 587

PROVINCIAL MINING REVENUE: TAXES, 1907-1976
(Dollars)

Year	Mining Profits Tax	Gas Tax	Acreage Tax	Total Taxes
1951	5 222 698	29 878	128 726	5 381 302
1952	4 377 163	32 230	123 766	4 533 158
1953	3 924 521	31 797	147 370	4 103 687
1954	4 509 128	39 856	156 281	4 705 264
1955	6 611 509	42 167	148 215	6 801 890
1956	8 016 487	45 646	146 186	8 208 320
1957	9 611 946	54 234	141 264	9 807 444
1958	7 223 960	61 055	154 847	7 439 862
1959	12 908 669	72 490	157 867	13 139 026
1960	17 096 831	74 669	130 651	17 302 150
1961	15 444 439	82 541	163 198	15 690 178
1962	15 222 195	61 118	146 456	15 429 768
1963	10 362 297	100 319	152 878	10 615 495
1964	14 386 839	41 249	151 780	14 579 868
1965	14 889 068	64 809	140 119	15 093 996
1966	10 640 398	50 542	160 572	10 851 512
1967	16 105 638	75 337	153 368	16 334 342
1968	19 615 792	57 310	146 707	19 819 810
1969	23 890 238	52 462	598 763	24 541 464
1970	24 731 492	47 658	662 492	25 441 642
1971	13 322 701	0	643 044	13 965 745
1972	16 344 101	0	673 804	17 017 905
1973	46 309 367	0	653 238	46 962 605
1974	152 105 039	0	697 562	152 802 601
1975	62 438 191	0	643 262	63 081 453
1976	41 041 961	0	610 859	41 652 820

^aTen months: 1 January to 31 October.^b1910-34: fiscal year 1 November - 31 October.^c1935-36: fiscal year 1 April - 31 March. Revenues for the five months 1 November 1934 - 31 March 1935 are: gas tax, \$820; acreage tax, \$10,726; total tax, \$11,545.

PROVINCIAL MINING REVENUE: OTHER, 1907-1976
(Dollars)

Year	Sales of Goods and Services	Miscellaneous Licences and Permits	Miscellaneous
1907	1 643		
1908	24 242		
1909 ^a	117 719		
1910 ^b	1 440		
1911	1 711		
1912	862		
1913	793		
1914	430		
1915	289		
1916	745		
1917	727		
1918	2 107	3 470	32
1919	730	4 849	0
1920	634	5 237	84 659
1921	4 776	13 934	13 233
1922	17 833	7 584	14 279
1923	21 952	4 018	15 505
1924	32 654	4 313	8 042
1925	22 903	3 913	10 097
1926	29 258	9 425	9 383
1927	25 313	7 321	10 456
1928	26 359	6 639	12 867
1929	24 877	8 433	10 565
1930	28 679	7 440	9 372
1931	29 226	7 320	7 178
1932	20 965	4 156	3 873
1933	7 363	3 420	4 637
1934	21 212	3 576	7 916
1935 ^c	26 910	3 150	8 803
1936	34 840	5 491	11 724
1937	26 197	3 926	9 295
1938	28 603	3 681	7 865
1939	29 673	4 756	7 617
1940	32 968	3 386	4 296
1941	27 072	3 622	4 502
1942	42 647	2 217	2 603
1943	34 171	2 803	4 664
1944	24 281	7 549	5 369
1945	52 452	3 763	8 134

^aTen months: 1 January to 31 October.^b1910-34: fiscal year 1 November - 31 October.^c1935-76: fiscal year 1 April - 31 March.

Revenues for the five months 1 November 1934 - 31 March 1935 are: sales of goods and services, \$17,661; miscellaneous licences and permits, \$1,471; miscellaneous, \$8,847.

Year	Sales of Goods and Services	Miscellaneous Licences and Permits	Miscellaneous
1946	76 623	3 847	13 211
1947	73 127	3 652	8 619
1948	93 924	3 316	8 084
1949	44 386	3 439	
1950	75 173	3 840	9 061
1951	115 673	3 965	9 941
1952	159 048	4 386	11 639
1953	188 697	4 739	241 451
1954	194 371	1 996	34 154
1955	194 076	3 159	44 992
1956	172 901	2 545	39 011
1957	156 721	72 430	62 483
1958	134 875	3 369	13 204
1959	151 983	2 511	13 371
1960	179 326	3 455	11 390
1961	136 623	3 576	9 106
1962	154 542	4 036	8 427
1963	152 338	4 474	10 658
1964	184 361	3 743	34 233
1965	170 944	5 352	21 089
1966	166 703	5 560	19 509
1967	186 123	5 543	18 942
1968	197 390	6 100	24 094
1969	182 296	76 884	13 888
1970		90 007	
1971		35 479	
1972		33 550	
1973		58 850	
1974		73 625	
1975		94 900	
1976		89 675	

GENERAL NOTES ON THE CHRONICLE OF LEGISLATION

SOURCES

The sources for the Ontario legislation are the Statutes of Ontario (S.O.) and the Revised Statutes of Ontario (R.S.O.). For the federal enactments the sources are the Statutes of Canada (S.C.) and the Revised Statutes of Canada (R.S.C.). In the tables of Ontario and federal legislation, the sources are S.O. and S.C. respectively unless otherwise indicated.

GROUPING OF THE ACTS

The provincial and federal acts are grouped according to several headings, listed below. Each act is assigned to that group which best reflects the thrust of the legislation. An act may also have some application to another classification or classifications, but no provision has been made for cross-referencing.

The classifications follow each other alphabetically. Acts are arranged also within each classification in alphabetical order. The classifications used are listed below. An asterisk (*) indicates that the group is found only in Statutes of Canada.

Development of Mining Sector
 Labour
 Other*
 Ownership and Control*
 Property Rights
 Provision of Public Services
 Research*
 Social Issues
 Specific Minerals*
 Taxation
 Trade*

STATUTES OF ONTARIO LISTED

The following statutes are covered in the tables, under the heading indicated.

Air Pollution Control Act (Social)
 Apprenticeship Act (Labour)
 Apprenticeship and Tradesmen's Qualification Act (Labour)
 Arbitrations Act (Labour)
 Archaeological and Historic Sites Protection Act (Property)
 Boundaries Act (Property)
 Business Practices Act (Development)
 Certification of Titles Act (Property)
 Conveyancing and Law of Property Act (Property)
 Construction Safety Act (Social)

Corporation Securities Registration Act (Development)
 Corporations Act (Development)
 Corporations Information Act (Development)
 Corporations Tax Act (Taxation)
 Crown Timber Act (Property)
 Development Corporations Act (Development)
 Development Services Act (Development)
 Employment Standards Act (Labour)
 Environmental Assessment Act (Social)
 Environmental Protection Act (Social)
 Expropriations Act (Property)
 Fatal Accidents Act (Social)
 Historic Parks Act (Property)
 Income Tax Act (Taxation)
 Industrial and Mining Lands Compensation Act (Property)
 Industrial Safety Act (Social)
 Industrial Standards Act (Labour)
 Land Titles Act (Property)
 Land Transfer Tax Act (Taxation)
 Labour Relations Act (Labour)
 Mining Act (Development)
 Mining Tax Act (Taxation)
 Negligence Act (Social)
 Northern Development Act (Development)
 Ontario Development Corporation Act (Development)
 Operating Engineers Act (Labour)
 Personal Property Security Act (Property)
 Professional Engineers Act (Labour)
 Property and Civil Rights Act (Property)
 Provincial Land Tax Act (Taxation)
 Provincial Parks Act (Property)
 Public Lands Act (Property)
 Public Utilities Act (Public Services)
 Public Works Act (Public Services)
 Registry Act (Property)
 Settled Estates Act (Property)
 Short Forms of Conveyances Act (Property)
 Silicosis Act (Social)
 Surveys Act (Property)
 Unwrought Metal Sales Act (Development)
 Wages Act (Labour)
 Waste Management Act (Social)
 Water Powers Regulation Act (Property)
 Water Resources Commission Act (Social)
 Wilderness Areas Act (Social)
 Workmen's Compensation Act (Labour)
 Workmen's Compensation Insurance Act (Labour)

STATUTES OF CANADA LISTED

The following statutes are covered in the tables, under the heading indicated.

Adult Occupational Training Act (Labour)
 Alien Labour Act (Labour)
 Anti-Dumping Act (Trade)
 Anti-Inflation Act (Other)
 Area Development Incentive Act (Development)
 Atomic Energy Control Act (Specific)
 Bank Act (Development)
 Canadian Commercial Corporation Act (Trade)
 Canadian National Railways Act (Public Services)
 Clean Air Act (Social)
 Combines Investigation Act (Development)
 Conciliation and Labour Act (Labour)
 Corporations Act (Development)
 Corporations and Labour Unions Returns Act (Research)
 Customs Act (Trade)
 Customs Tariff Act (Taxation)
 Defence Production Act (Other)
 Department of Mines and Technical Surveys Act (Research)
 Development Corporation Act (Development)
 Dominion Forest Reserve and Parks Fisheries Act (Social)
 Dominion Water Power Act (Public Services)
 Economic Council of Canada Act (Research)
 Electricity Inspection Act (Public Services)
 Emergency Gold Mining Assistance Act (Specific)
 Employment Support Act (Labour)
 Environmental Contaminants Act (Social)
 Establishment Programs (Interim Arrangements) Act (Ownership)
 Excess Profits Tax Act (Taxation)
 Excise Tax Act (Taxation)
 Exploration Act (Property)
 Explosives Act (Social)
 Export Act (Trade)
 Export Credits Insurance Act (Trade)
 Export Development Act (Trade)
 Export and Import Permits Act (Trade)
 Foreign Investment Review Act (Ownership)
 Forestry Act (Social)
 Forestry Development and Research Act (Social)
 Freight Rates Reduction Act (Public Services)
 Gas Inspection Act (Public Services)
 Gold Clauses Act (Other)
 Gold Export Act (Specific)
 Government Harbours and Piers Act (Public Services)
 Government Railways Act (Public Services)
 Income Tax Act (Taxation)
 Indian Act (Ownership)
 Industrial Development Bank Act (Development)
 Industrial Disputes Investigation Act (Labour)
 Industrial Relations and Disputes Investigation Act (Labour)
 Industrial Research and Development Incentives Act (Development)
 Investment Companies Act (Development)

Labour Code (Labour)
 Labour (Safety) Code (Labour)
 Loan Companies Act (Development)
 Manpower and Immigration Council Act, Canada (Labour)
 National Employment Commission Act (Labour)
 National Harbours Board Act (Public Services)
 National Parks Act (Property)
 National Research Council Act (Research)
 Pension Act (Labour)
 Precious Metals Marking Act (Specific)
 Provincial Subsidies Act (Taxation)
 Public Lands Grants Act (Property)
 Public Works Act (Public Services)
 Railway Act (Public Services)
 Regional Development Incentives Act (Development)
 Resources and Technical Surveys Act (Research)
 Salaries Act (Labour)
 Science Council of Canada Act (Research)
 Shipping Act (Public Services)
 Small Business Loans Act (Development)
 Small Loans Act (Development)
 Statistics Act (Research)
 Tariff Board Act (Trade)
 Trade Unions Act (Labour)
 Unemployment Assistance Act (Labour)
 Unemployment Insurance Act (Labour)
 Unemployment Relief Act (Labour)
 Unemployment Relief and Assistance Act (Labour)
 Veterans' Land Act (Property)
 Water Act (Social)
 Wildlife Act (Social)

INTERPRETATION OF THE TABLES

The tables give a complete record of all post-1945 amendments to the initial enactment. Chapter numbers subsequent to the initial act refer to amendments to the act, or to other legislation pertaining to the initial act in some way. As can be readily ascertained from the footnotes to the tables, such legislation may have only remote connection to the mining industry. However, the selection of only those acts dealing directly with mining requires additional evaluation steps which were beyond the scope of the project. The footnotes give the title of an act which differs from the name of an act shown in the tables, where the act referred to in a footnote either amends or gives the force of amending the act cited in the tables. All footnotes to the tables are found at the end of the relevant sections.

In addition to the footnotes, there is a set of symbols appearing in the tables. These symbols, and their meaning, are as follows:

* = act passed prior to 1945
a = for Ontario, acts were passed during two sessions of the legislature in 1971. In the tables, legislation enacted in the second session is indicated by: (2 Sess); all other legislation was passed in the first session
c = chapter
n = old act repealed; replaced by new enactment
r = repealed
s = section.

STATUTES OF ONTARIO: DEVELOPMENT OF MINING SECTOR

	Business Practices Act	Corporation Securities Registration Act	Corporations Corporations Act	Corporations Information Act	Development Corporations Act
Year act passed	1974	*	1953	1953	1973
1946					
1947					
1948					
1949					
1950					
R.S.O. 1950		c.71			
1951					
1952					
1953		c.19		c.21	
1954		c.14		c.15	
1955		c.9			
1956					
1957		c.15		c.16	
1958		c.14		c.15	
1959					
1960		c.13			
R.S.O. 1960		c.70	c.71	c.72	
1960-61			c.13		
1961-62			c.21	c.22	
1962-63			c.24	c.25	
1963-64			c.10		
1965			c.21		
1966			c.28	c.29	
1967					
1968			c.19		
1968-69		c.15	c.16	c.17	
1970			c.30, c.134, s.18 ⁷		
R.S.O. 1970		c.88	c.89	c.90	
1971 ^a		c.8 (2 Sess)	c.25, C.98, s.4 ⁹	c.27 sup.	
1972				c.1, s.37 ¹² , c.139	
1973			c.104		c.84, c.125
1974	c.131				
1975					c.10 (2 Sess)
1976			c.68	c.66 sup.	
1977					

STATUTES OF ONTARIO: DEVELOPMENT OF MINING SECTOR

	Development Services Act	Mining Act	Northern Development Act	Ontario Development Corporation Act
Year act passed	1974	*	*	1966
1946		c.55	c.89, s.32 ¹	
1947		c.66		
1948		c.56	c.62	
1949		c.59		
1950		c.44		
R.S.O. 1950		c.236		
1951		c.51		
1952		c.59		
1953		c.64		
1954		c.53		
1955		c.45		
1956		c.47		
1957		c.71		
1958		c.59		
1959		c.60		
1960				
R.S.O. 1960		c.241		
1960-61				
1961-62		c.81		
1962-63		c.84		
1963-64		c.62		
1965		c.73		
1966			c.100	
1967		c.54		
1968		c.71	c.81	
1968-69		c.68		
1970		c.26, c.79		
R.S.O. 1970		c.274	c.308	
1971 ^a		c.50, s.58 ⁸ , c.98, s.4 ⁹ , c.102	c.67	
1972		c.4, s.17 ¹¹ , c.116	c.1, s.81 ¹² , c.68	
1973		c.106	c.31 ^r	c.84, s.27 ¹³
1974	c.2			
1975				
1976				
1977				

STATUTES OF ONTARIO: DEVELOPMENT OF MINING SECTOR

Unwrought
Metal Sales
Act

Year act
passed *

1946

1947

1948

1949

1950

R.S.O.
1950

c. 404

1951

1952

1953

1954

1955

1956

c. 92^r

1957

1958

1959

1960

R.S.O.
1960

1960-61

1961-62

1962-63

1963-64

1965

1966

1967

1968

1968-69

1970

R.S.O.
19701971^a

1972

1973

1974

1975

1976

1977

STATUTES OF ONTARIO: LABOUR

	Apprenticeship Act	Apprenticeship and Tradesmen's Qualification Act	Arbitrations Act	Employment Standards Act	Industrial Standards Act
Year act passed	*	1963-64	*	1968	*
1946	c.2				c.89, s.23 ¹
1947	c.101, s.1 ²				c.49
1948	c.4				c.47
1949			c.5		c.44
1950					
R.S.O. 1950	c.19		c.20		c.179
1951					
1952					
1953					
1954					
1955					
1956					
1957					c.49
1958					
1959					
1960					
R.S.O. 1960	c.17		c.18		c.186
1960-61					
1961-62					
1962-63	c.4				
1963-64	c.3, s.20 ^{6r}	c.3			c.46
1965					
1966					
1967					
1968				c.35	
1968-69		c.5			
1970				c.45	
R.S.O. 1970	c.24		c.25	c.147	c.221
1971 ^a	c.50, s.7 ⁸ , c.98, s.4 ⁹			c.50, s.37 ⁸	c.50, s.49 ⁸
1972	c.1, s.13 ¹² , c.113			c.120	
1973			c.28	c.172	
1974				c.112 sup.	
1975					
1976			c.5		
1977					

STATUTES OF ONTARIO: LABOUR

	Labour Relations Act	Operating Engineers Act	Professional Engineers Act	Wages Act	Workmen's Compensation Act
Year act passed	1948	*	*	*	*
1946			c.75		c.111
1947			c.80		c.119
1948	c.51				c.99
1949			c.76		c.114
1950	c.34 sup.				c.89
R.S.O.					
1950	c.194	c.265	c.292	c.415	c.430
1951					c.95
1952			c.79		c.114
1953		c.78 sup.			c.109
1954	c.42	c.67	c.73		c.107
1955					c.93
1956	c.35				c.93
1957	c.57	c.89			
1958	c.47				c.123
1959	c.50			c.106	
1960	c.54			c.128	c.132
R.S.O.					
1960	c.202	c.282	c.309	c.421	c.437
1960-61				c.103	
1961-62	c.68				
1962-63	c.70			c.143	c.145
1963-64	c.53				c.124
1965		c.92 sup.			c.142
1966	c.76				
1967					c.106
1968				c.142	c.143
1968-69			c.99 sup.		c.140
1970	c.3, c.85	c.27			
R.S.O.					
1970	c.232	c.333	c.366	c.486	c.505
1971a		c.50, s.648		c.20	c.62, c.98, s.49
1972		c.1, s.49 ¹² , c.41	c.45		c.46, c.173
1973					c.70
1974					c.47
1975	c.76				
1976					
1977	c.31			c.41, s.2418	

STATUTES OF ONTARIO: LABOUR

Workmen's
Compensation
Insurance Act

Year act
passed *

1946

1947

1948

1949

1950

R.S.O.
1950

c.431

1951

1952

1953

1954

1955

1956

1957

1958

1959

1960

R.S.O.
1960

c.438

1960-61

1961-62

1962-63

1963-64

1965

1966

1967

1968

1968-69

1970

R.S.O.
1970

c.506

1971^a

1972

1973

1974

1975

1976

1977

STATUTES OF ONTARIO: PROPERTY RIGHTS

	Archaeological and Historic Sites Protection Act	Boundaries Act	Certification of Titles Act	Conveyancing and Law of Property Act
Year act passed				
1946				
1947				
1948				
1949				
1950				c.11
R.S.O. 1950				c.68
1951				
1952				c.12
1953	c.4			
1954				c.12
1955				
1956	c.2			c.10
1957				
1958			c.9	
1959	c.5	c.8	c.11	c.23
1960			c.8	c.18
R.S.O. 1960	c.19	c.38	c.48	c.66
1960-61				
1961-62		c.9	c.13	
1962-63				
1963-64				c.9
1965	c.5	c.9	c.13	
1966				c.25
1967				
1968				
1968-69				
1970	c.26	c.36	c.37	
R.S.O. 1970	c.50, s.8 ⁸	c.48	c.59	c.85
1971 ^a		c.50, s.13 ⁸	c.50, s.14 ⁸	
1972		c.1, s.29 ¹²	c.1, s.32 ¹²	
1973			c.12	c.132
1974	c.122 ¹⁴ , s.71 ^r			
1975				c.19 (2 Sess.)
1976				
1977				c.40 ¹⁶ , ss. 51,59

STATUTES OF ONTARIO: PROPERTY RIGHTS

	Crown Timber Act	Expropriations Act	Historic Parks Act	Industrial and Mining Lands Compensation Act
Year act passed	*	1968-69	1972	*
1946	c.89, s.13 ¹			
1947	c.24			
1948	c.21			
1949	c.22			
1950				
R.S.O. 1950	c.82			c.177
1951				
1952	c.15 sup.			
1953				
1954	c.19			
1955				
1956	c.14			
1957				
1958				
1959				
1960				
R.S.O. 1960	c.83			c.184
1960-61				
1961-62	c.27			
1962-63				
1963-64	c.16			
1965				
1966	c.36			
1967				
1968	c.24			
1968-69		c.36		
1970				
R.S.O. 1970	c.102	c.154		c.219
1971 ^a	c.23	c.12		
1972	c.4, s.16 ¹¹ , c.26	c.1, 2.10 ¹² , c.24	c.6	
1973				
1974				
1975		c.19		
1976				
1977				

STATUTES OF ONTARIO: PROPERTY RIGHTS

	Land Titles Act	Personal Property Security Act	Property and Civil Rights Act	Provincial Parks Act
Year act passed	*	1967	*	*
1946				c.76
1947	c.101, s.12 ² , c.102, s.4 ³			
1948	c.87, s.5 ⁴			
1949				
1950				c.59, sup.
R.S.O.				
1950	c.197		c.293	c.300
1951	c.43			
1952	c.49			c.82
1953	c.54			
1954	.43			c.75, sup.
1955				
1956	c.38			c.69
1957	c.58			
1958	c.49			c.83 sup.
1959				c.78
1960	c.56			c.88
R.S.O.				
1960	c.204		c.310	c.314
1960-61				c.79
1961-62	c.70			c.112
1962-63	c.72			c.110
1963-64				
1965	c.55			
1966	c.77			c.122
1967	c.44	c.73		
1968	c.62			c.104
1968-69	c.57			
1970	c.35			c.17
R.S.O.				
1970	c.234	c.344	c.367	c.371
1971 ^a				c.16
1972	c.1, s.43 ¹² , c.132	c.1, s.52 ¹²		c.1, s.87 ¹² , c.27
1973	c.39	c.102		
1974				
1975				
1976		c.39		c.56
1977	c.8, s.8 ¹⁷	c.23		

STATUTES OF ONTARIO: PROPERTY RIGHTS

	Public Lands Act	Registry Act	Settled Estates Act	Short Forms of Conveyances Act
Year act passed	*	*	*	*
1946	c.79	c.89, ss.38 ¹ , 39(2) aff.		
1947	c.84, c.85	c.95, c.101, s.17 ²		
1948	c.72	c.87, s.114		
1949	c.81	c.88		
1950	c.63	c.69		
R.S.O.				
1950	c.309	c.336	c.357	c.360
1951	c.71	c.78		
1952	c.86	c.91		
1953	c.88			
1954		c.83		
1955	c.66	c.70		
1956	c.72		c.84	
1957	c.99	c.107		
1958	c.86	c.94		
1959	c.81			
1960	c.94	c.102		c.110
R.S.O.				
1960	c.324	c.348	c.369	c.372
1960-61	c.81			
1961-62	c.117	c.124		
1962-63	c.114	c.124		
1963-64		c.102		
1965	c.108	c.116		
1966	c.127	c.136		
1967	c.81			
1968	c.108	c.116		
1968-69		c.109		
1970	c.59	c.40		
R.S.O.				
1970	c.380	c.409	c.431	c.435
1971 ^a	c.46	c.50, s.77 ⁸ , c.98, s.4 ⁹		
1972	c.4, s.19 ¹¹ , c.29	c.1, s.54 ¹² , c.133		
1973		c.120		
1974				
1975	c.65			
1976				
1977		c.8, s.17		

STATUTES OF ONTARIO: PROPERTY RIGHTS

	Surveys Act	Water Powers Regulation Act
Year act passed	*	*
1946	c.94	
1947	c.106	
1948	c.89	
1949		c.110
1950	c.82	
R.S.O.		
1950	c.381	c.420
1951		
1952		
1953		
1954		
1955		
1956		
1957	c.120	
1958	c.107 sup.	
1959		
1960	c.118	
R.S.O.		
1960	c.390	c.426
1960-61	c.97	
1961-62		
1962-63		
1963-64		
1965		
1966		
1967	c.98	
1968	c.131	
1968-69		
1970		
R.S.O.		
1970	c.453	c.492
1971a	c.50, s.81 ⁸ , c.53	
1972	c.4, s.20 ¹¹ , c.30	c.28, s.1 ^r
1973		
1974		
1975		
1976		
1977		

STATUTES OF ONTARIO: PROVISION OF PUBLIC SERVICES

Public	
Utilities	Public Works
Act	Act

Year act passed	Public Utilities Act	Public Works Act
	*	*
1946		c.84
1947		c.90, c.91
1948		c.85
1949		
1950		c.323
 R.S.O. 1950		
		c.320
1951		c.75
1952		
1953		
1954		c.81
1955		
1956		
1957	c.103	c.105
1958	c.91	
1959		
1960		c.100
 R.S.O. 1960		
	c.335	c.338
1960-61		c.85
1961-62		
1962-63		c.120
1963-64		
1965		c.113
1966		c.133
1967		
1968		
1968-69		
1970		c.110
 R.S.O. 1970		
	c.390	c.393
1971 ^a		
1972		c.1, s.74 ¹²
1973		
1974		
1975		
1976		c.28
1977		

STATUTES OF ONTARIO: SOCIAL ISSUES

	Air Pollution Control Act	Construction Safety Act	Environmental Assessment Act	Environmental Protection Act	Fatal Accidents Act
Year act passed	1958	1961-62	1975	1971	*
1946					c.30
1947					
1948					
1949					
1950					
R.S.O. 1950					c.132
1951					
1952					
1953					
1954					
1955					
1956					
1957					
1958	c.2				
1959	c.3				c.36
1960					
R.S.O. 1960	c.12				c.138
1960-61					
1961-62	c.3	c.18			
1962-63	c.2	c.22			
1963-64					
1965		c.19			
1966	c.5				
1967	c.2 sup.				
1968	c.3				
1968-69	c.2				
1970					
R.S.O. 1970	c.16	c.81			c.164
1971 ^a	c.86, s.104 ¹⁰ , r	c.50, s.22 ⁸		c.86	
1972			c.1, s.9 ¹² , c.106		
1973		c.47 sup.	c.94		c.16
1974			c.20, c.125		
1975		c.69	c.70		c.38
1976			c.49		
1977					

STATUTES OF ONTARIO: SOCIAL ISSUES

	Industrial Safety Act	Negligence Act	Silicosis Act	Waste Management Act	Water Resources Commission Act
Year act passed	1963-64	*	1950	1970	1956
1946					
1947					
1948		c.61			
1949					
1950			c.76 sup.		
R.S.O.					
1950		c.252	c.363		
1951					
1952					
1953					
1954					
1955					
1956				c.62	
1957				c.88 sup.	
1958				c.77	
1959				c.70	
1960				c.79	
R.S.O.					
1960		c.261	c.375		c.281
1960-61					c.71
1961-62					c.99
1962-63					c.99
1963-64	c.45				c.86
1965					c.91
1966		c.98			c.108
1967					
1968	c.56				
1968-69	c.52				
1970	c.28			c.44	c.124
R.S.O.					
1970	c.220	c.296	c.438	c.491	c.332
1971 ^a	c.43 sup.		c.50, s.78 ⁸	c.86, s.104 ^{10,r}	
1972	c.122				c.1, s.70 ¹²
1973					c.90
1974	c.104				c.19
1975		c.41, s.715			c.71
1976					
1977		c.59			

STATUTES OF ONTARIO: SOCIAL ISSUES

Wilderness
Areas ActYear act
passed

1959

1946

1947

1948

1949

1950

R.S.O.
1950

1951

1952

1953

1954

1955

1956

1957

1958

1959 c.107

1960

R.S.O.
1960

c.432

1960-61

1961-62

1962-63

1963-64

1965

1966

1967

1968

1968-69

1970

R.S.O.
1970

c.498

1971^a

1972

1973

1974

1975

1976

1977

STATUTES OF ONTARIO: TAXATION

	Corporations Tax Act	Income Tax Act	Land Transfer Tax Act
Year act passed	*	*	*
1946			
1947	c.19	c.48 aff.	
1948	c.18	c.45 aff.	
1949	c.18	c.43 aff.	c.49
1950	c.12	c.29 sup.	c.35
R.S.O.			
1950	c.72	c.175	c.198
1951			c.44
1952	c.13		
1953	c.22		
1954			
1955			
1956			
1957	c.17 sup.		
1958	c.16		
1959	c.20		
1960	c.14		
R.S.O.			
1960	c.73		c.205
1960-61	c.14	c.39 sup.	
1961-62	c.23	c.61, c.60 sup.	
1962-63	c.26	c.61	
1963-64	c.11	c.43	
1965	c.22	c.50	
1966	c.30	c.69	c.78
1967	c.15	c.39	
1968	c.20	c.55	
1968-69	c.18, c.19	c.51	
1970	c.69	c.7, c.111	
R.S.O.			
1970	c.91	c.217	c.235
1971 ^a	c.11, c.72 (2 Sess) c.2	c.22 (2 Sess), c.1	
1972	c.143 sup.	c.1, s.106 ¹² , c.100, c.146	c.15
1973	c.42, c.157	c.21, c.153	
1974	c.75, c.108	c.91	c.8 sup., c.16, c.93
1975	c.17	c.15 (1 Sess), c.15 (2 Sess)	
1976	c.32, c.63, c.80	c.12, c.81	
1977	c.16, c.58	c.6	

STATUTES OF ONTARIO: TAXATION

	Mining Tax Act	Provincial Land Tax Act
Year act passed	*	*
1946	c.56	
1947	c.67, c.68	
1948	c.57	
1949	c.60	
1950	c.45, c.79, s.12 aff. ⁵	c.79, s.15 ⁵
R.S.O.		
1950	c.237	c.298
1951		
1952	c.60	c.80
1953	c.65	c.84
1954		
1955	c.46	c.64
1956		c.68
1957	c.72	
1958	c.60	c.82
1959	c.61	c.77
1960		
R.S.O.		
1960	c.242	c.313
1960-61		
1961-62		c.111 sup.
1962-63		
1963-64		
1965		
1966		c.121
1967		
1968		
1968-69	c.69	
1970		c.116
R.S.O.		
1970	c.275	c.370
1971 ^a	c.14	c.50, s.70 ⁸
1972	c.140 sup.	c.1, s.91 ¹²
1973		c.135
1974	c.132	
1975		
1976		
1977		

FOOTNOTES TO STATUTES OF ONTARIO

1. Statute Law Amendment Act, 1946
2. Statute Law Amendment Act, 1947
3. Statute Law Amendment Act, 1947 (No. 2)
4. Statute Law Amendment Act, 1948
5. Statute Law Amendment Act, 1950
6. Apprenticeship and Tradesmen's Qualification Act, 1964
7. Insurance Amendment Act, 1970
8. Civil Rights Statute Law Amendment Act, 1971
9. Age of Majority and Accountability Act, 1971
10. Environmental Protection Act, 1971
11. Ministry of Natural Resources Act, 1972
12. Government Reorganization Act, 1972
13. Development Corporations Act, 1973
14. Ontario Heritage Act, 1974
15. Family Law Reform Act, 1975
16. The Succession Law Reform Act, 1977
17. The Succession Duty Amendment Act, 1977
18. The Children's Law Reform Act, 1977

STATUTES OF CANADA: DEVELOPMENT OF MINING SECTOR

	Area Development Incentives Act	Bank Act
Year act passed	1960-61	*
1946		
1947		
1948		
1949		
1950		
1950-51		
1951		
1952		
R.S.C. 1952		c.12
1952-53		
1953-54		c.48 ^a
1955		
1956		
1956-57		
1957-58		
1958		
1959		
1960		
1960-61		
1962		
1962-63		
1963		
1964-65		c.10
1965	c.12	c.7
1966-67	c.6 ²⁹	c.7, s.54, c.87 ^a
1967-68		
1968-69	c.28, s.105 ⁴³ , c.56, s.17 ⁴⁴	
1969-70		c.11
R.S.C. 1970		B-1
R.S.C. 1970, Supplements		c.19, s.53 ⁵⁴ (1 Supp), c.15, s.4 ⁵⁵ (2 Supp)
1970-71-72		
1972		c.24 ⁶¹
1973-74		
1974		
1974-75-76		c.76, ss.26-29 ⁷¹ , cc.114 ⁷² , 116 ⁷³
1976-77		c.16, s.1, c.28, s.49(2) ⁸⁹ , c.58

STATUTES OF CANADA: DEVELOPMENT OF MINING SECTOR

Combines Investigation Act		Corporations Act
Year act passed	*	*
1946	c.44	
1947		
1948		
1949	c.12 (2 Sess)	
1950	c.50, s.10 ⁶	
1950-51		
1951	c.30 (2 Sess)	
1952	c.39	
R.S.C. 1952	c.314	c.53
1952-53		
1953-54	c.51, s.750 ¹⁶	
1955		
1956		
1956-57		
1957-58		
1958		
1959	c.40	
1960	c.45	
1960-61	c.42	
1962		
1962-63	c.4	
1963		
1964-65	c.35	c.52
1965		
1966-67	c.23, c.25, ss.38, 45 ²⁸	c.25, s.38 ²⁸ , c.66
1967-68		c.9
1968-69	c.38, s.116 ⁴²ⁿ	
1969-70	c.70, s.34 ⁵⁰	c.70
R.S.C. 1970	C-23	c.32
R.S.C. 1970, Supplements	c.10, s.34 ⁵⁰ (1 Supp), c.10, s.65 ⁵³ (2 Supp)	c.10 (1 Supp), ss.1-29, 36-37
1970-71-72		c.43, s.3(2) ⁶⁰ , c.63, s.5 ⁶¹
1972		c.17, s.2 ⁶²
1973-74		
1974		
1974-75-76	c.76, ss.1-12, 14-25 ⁷¹	
1976-77	c.28, s.9 ⁸⁹	

STATUTES OF CANADA: DEVELOPMENT OF MINING SECTOR

	Development Corporation Act	Industrial Development Bank Act	Industrial Research and Development Incentives Act
Year act passed	1970-71-72	*	1965, 1966-67
1946			
1947			
1948			
1949		c.26 (2 Sess)	
1950		c.51, s.11 ⁷	
1950-51			
1951			
1952		c.30	
R.S.C. 1952		c.151	
1952-53			
1953-54			
1955			
1956		c.25	
1956-57			
1957-58			
1958			
1959			
1960			
1960-61		c.50	
1962			
1962-63			
1963			
1964-65			
1965			
1966-67			c.82
1967-68		c.19	
1968-69		c.28, s.105 ⁴³	c.28, s.105 ⁴³
1969-70			c.42
R.S.C. 1970		I-9 ⁿ	I-10
R.S.C. 1970, Supplements			c.18, ss.1-4 (1 Supp)
1970-71-72	c.49		c.43, s.3(2) ⁶⁰ , c.63, s.4 ⁶¹
1972			
1973-74			
1974			
1974-75-76	c.61, s.29 ⁷⁷	c.14, s.50 ⁷⁴	
1976-77			c.3, ss.10-12 ⁹⁴

STATUTES OF CANADA: DEVELOPMENT OF MINING SECTOR

	Investment Companies Act	Loan Companies Act	Regional Development Incentives Act
Year act passed	1970-71	*	1968-69
1946			
1947			
1948		c.57	
1949			
1950		c.42	
1950-51			
1951			
1952			
R.S.C.			
1952		c.170	
1952-53		c.5	
1953-54			
1955			
1956			
1956-57			
1957-58			
1958		c.35	
1959			
1960			
1960-61		c.51	
1962			
1962-63			
1963			
1964-65		c.40 ²⁵	
1965			
1966-67		c.25, s.45 ²⁸	
1967-68		c.16, s.133 ⁹	
1968-69			c.56 ⁴⁴
1969-70		c.17	
R.S.C.			
1970		L-12	R-3
R.S.C. 1970, Supplements		c.24 (1 Supp), ss.1-45	c.25, ss.1-9 (2 Supp)
1970-71-72	c.33		
1972		c.17, s.2 ⁶²	
1973-74		c.49, s.17 ⁶⁴	
1974			
1974-75-76	c.33, s.265 ⁷⁶	c.7, ss.3-7 ⁷⁵	s.84, ss.1-4
1976-77	c.18, s.20 ⁸⁹	c.28, s.248 ⁹	c.55, s.7 ⁹⁹

STATUTES OF CANADA: DEVELOPMENT OF MINING SECTOR

	Small Business Loans Act	Small Loans Act
Year act passed	1960-61	*
1946		
1947		
1948		
1949		
1950		
1950-51		
1951		
1952		
R.S.C.		
1952		c.251
1952-53		
1953-54		
1955		
1956		c.46
1956-57		
1957-58		
1958		
1959		
1960		
1960-61	c.5	
1962	c.19	
1962-63		
1963	c.30	
1964-65		
1965		
1966-67	c.83	
1967-68		
1968-69		
1969-70	c.21	c.70, s.32 ⁵⁰
R.S.C.		
1970	S-10	S-11
R.S.C. 1970, Supplements	c.40, ss.1-5 (1 Supp), c.28, ss.1-3 (2 Supp)	c.10, (1 Supp), s.32(1)(2) ⁵⁶
1970-71-72		
1972		
1973-74		
1974	c.10, ss.6-8 ⁶⁸	
1974-75-76		c.33, s.265 ⁷⁶
1976-77	c.23, ss.4-7	

STATUTES OF CANADA: LABOUR

	Adult Occupational Training Act	Alien Labour Act	Conciliation and Labour Act	Employment Support Act
Year act passed	1966-67	*	*	1970-71-72
1946				
1947				
1948				
1949				
1950				
1950-51				
1951				
1952				
R.S.C. 1952		c.7		
1952-53				
1953-54				
1955				
1956				
1956-5				
1957-58				
1958				
1959				
1960				
1960-61				
1962				
1962-63				
1963				
1964-65				
1965				
1966-67	c.94			
1967-68				
1968-69		c.28, s.105 ⁴³		
1969-70				
R.S.C. 1970	A-2		A-12 ⁿ	
R.S.C. 1970, Supplements				
1970-71-72				c.56 Expired
1972	c.14, ss.1-7			
1973-74				
1974				
1974-75-76				
1976-77	c.3, s.2 ⁹⁶ , c.54, s.74 ⁹³	c.52, s.128 ⁹⁴		

STATUTES OF CANADA: LABOUR

	Industrial Disputes Investigation Act	Industrial Relations and Disputes Investigation Act	Labour Code
Year act passed	*	1948	1966-67
1946			
1947			
1948	c.54, s.73 ² , n	c.54	
1949			
1950		c.50, s.10 ⁶	
1950-51			
1951			
1952			
R.S.C. 1952		c.152	
1952-53			
1953-54			
1955			
1956			
1956-57			
1957-58			
1958			
1959			
1960			
1960-61			
1962			
1962-63			
1963			
1964-65			
1965			
1966-67		c.62, s.30 ³²	c.62, s.30 ³²
1967-68			
1968-69			
1969-70			
R.S.C. 1970			L-1
R.S.C. 1970, Supplements			c.22, s.1 (1 Supp), c.17, ss.1-20 (2 Supp)
1970-71-72			
1972		c.18, s.1	
1973-74			
1974			
1974-75-76		c.66, s.23 ⁸⁰	
1976-77		c.28, s.21, 49 ⁹¹ , c.33, s.66 ⁹⁷ , c.54, s.74 ⁹³	

STATUTES OF CANADA: LABOUR

	Labour (Safety) Code	Manpower and Immigration Council Act	National Employment Commission Act	Pension Act
Year act passed	1966-67	1967-68	*	*
1946				c.62
1947				
1948				c.23
1949				c.6 ⁴ (1 Sess)
1950			c.50, s.10 ⁶	
1950-51				c.2, s.78
1951				c.56 (1 Sess)
1952				c.47
R.S.C. 1952				c.207
1952-53				
1953-54				c.62, c.65, s.5 ¹⁵
1955				
1956				
1956-57				c.14 ¹⁹
1957-58				c.19
1958				
1959				
1960				
1960-61				c.10
1962				
1962-63				
1963				
1964-65				c.34 ²⁶
1965				
1966-67	c.62			c.96, s.64 ³⁰ , c.55 ³¹
1967-68		c.13		
1968-69				
1969-70				
R.S.C. 1970		C-4 ⁿ		
R.S.C. 1970, Supplements				
1970-71-72				
1972				
1973-74				
1974				
1974-75-76				
1976-77		c.54, s.74 ⁹³		

STATUTES OF CANADA: LABOUR

	Salaries Act	Trade Unions Act
Year act passed	*	*
1946		
1947		
1948	c.68	
1949	c.6 ⁴ (1 Sess), c.36 (2 Sess)	
1950		
1950-51		
1951		
1952		
R.S.C.		
1952	c.243	c.267
1952-53		
1953-54	c.21	
1955		
1956		
1956-57		
1957-58		
1958		
1959		
1960	c.41, s.15 ²²	
1960-61		
1962		
1962-63		
1963	c.3, s.17, c.41, s.7 ²³	
1964-65		
1965		
1966-67	c.25, s.35 ²⁸	
1967-68	c.16, s.13 ³⁹	
1968-69	c.28, s.97 ⁴³	
1969-70		
R.S.C.		
1970	S-2	T-11
R.S.C. 1970, Supplements	c.14, s.28, 31 ⁵⁷ (2 Supp)	
1970-71-72		c.48 ⁶²
1972		
1973-74		
1974		
1974-75-76	c.56, s.1, c.434, s.5 ⁸¹	c.80, ss.1-37 ⁶² , c.66, s.22 ⁸⁰
1976-77		c.54, ss.37-74 ⁹³ , c.11, s.2 ⁹⁵

STATUTES OF CANADA: LABOUR

	Unemployment Assistance Act	Unemployment Insurance Act	Unemployment Relief Act	Unemployment Relief and Assistance Act
Year act passed	1956	*	*	*
1946		c.68		
1947				
1948		c.29		
1949		c.6 ⁴ (1 Sess)		
1950		c.1, c.50, s.10 ⁶		
1950-51		c.2, s.7 ⁸		
1951		c.7, s.15 ¹² (2 Sess)		
1952		c.51		
R.S.C. 1952		c.273		
1952-53		c.51		
1953-54		c.65, s.12 ¹⁵		
1955		c.1, c.50, s.118		
1956	c.26	c.50		
1956-57				
1957-58	c.20	c.8		
1958		c.221		
1959		c.36		
1960				
1960-61				
1962				
1962-63				
1963				
1964-65				
1965				
1966-67		c.25, s.39 ²⁸		
1967-68		c.13, s.25 ⁴⁰ , c.33		
1968-69				
1969-70				
R.S.C. 1970	U-1	U-2n		
R.S.C. 1970, Supplements				
1970-71-72		c.48		
1972				
1973-74				
1974				
1974-75-76	c.58, s.11 ⁸³	c.80, ss.1-37		
1976-77		c.34, s.29 ⁹⁹ , c.54, s.26-74 ⁹³		

STATUTES OF CANADA: OTHER

	Anti-Inflation Act	Defence Production Act	Gold Clauses Act
Year act passed	1974-75-76	1951	*
1946			
1947			
1948			
1949			
1950			
1950-51			
1951		c.4 (1 Sess), c.7, s.27 (2 Sess)	
1952			
R.S.C.			
1952		c.62	c.130
1952-53			
1953-54			
1955		c.52	
1956			
1956-57			
1957-58			
1958			
1959			
1960			
1960-61			
1962			
1962-63			
1963			
1964-65			
1965			
1966-67		c.25, s.45 ²⁸ , c.96, s.64 ³⁰	
1967-68		c.16, s.13 ³⁹ , c.27	
1968-69		c.28, s.105 ⁴³	
1969-70			
R.S.C.			
1970		D-2	G-4
R.S.C. 1970, Supplements		c.29, s.2 ⁵⁹ (2 Supp)	
1970-71-72			
1972			
1973-74			
1974			
1974-75-76		c.75, c.98, ss.1-12	
1976-77			

STATUTES OF CANADA: OWNERSHIP AND CONTROL

	Established Programs (Interim Arrangements) Act	Foreign Investment Review Act	Indian Act
Year act passed	1964-65	1973-74	1951
1946			
1947			
1948			
1949			
1950			
1950-51			
1951			c.29
1952			
R.S.C.			
1952			c.149
1952-53			c.41
1953-54			
195			
1956			c.40
1956-57			
1957-58			
1958			c.19
1959			
1960			c.8
1960-61			c.9
1962			
1962-63			
1963			
1964-65	c.54		
1965			
1966-67	c.45, s.19 ³³ , c.89, s.24 ³⁴		c.25, ss.40-45 ²⁸
1967-68			
1968-69			c.28, s.105 ⁴³
1969-70	c.24 ⁵¹		c.2451
R.S.C.			
1970	E-8 ⁿ		I-6
R.S.C. 1970, Supplements			c.10, s.65 ⁵³ (2 Supp)
1970-71-72	c.43, s.2(2) ⁶⁰ , c.63, s.61, c.25		
1972	c.8, s.34 ⁶⁵	c.46	
1973-74			
1974			
1974-75-76			c.48, s.25 ⁷²
1976-77	c.10, s.48 ⁹⁸ , c.34, s.25 ⁹⁹	c.52, s.128 ⁹⁴	

STATUTES OF CANADA: PROPERTY RIGHTS

	Expropriation Act	National Parks Act	Public Lands Grants Act
Year act passed	*	*	*
1946		c.9	
1947		c.66	
1948		c.18	
1949		c.5 (1 Sess)	
1950		c.45, c.50, s.10 ⁶	c.19 ^a
1950-51			
1951			
1952			
R.S.C. 1952	c.106	c.189	c.224
1952-53			
1953-54		c.6	
1955		c.37	
1956		c.31	
1956-57			
1957-58			
1958		c.8	
1959			c.52
1960			
1960-61			
1962			
1962-63			
1963			
1964-65			
1965			
1966-67		c.25, ss. 40-45 ²⁸	
1967-68			c.32 ³⁸
1968-69			
1969-70	c.41, s.42 ^a	c.41, s.42 ⁴⁸	
R.S.C. 1970	E-19 ⁿ	N-13	P-29
R.S.C. 1970, Supplements	c.16 (1 Supp), c.10, s.65 ⁵³ (2 Supp)		
1970-71-72			
1972			
1973-74			
1974		c.11, ss.1-11	
1974-75-76			
1976-77		c.28, s.49 ⁸⁹	

STATUTES OF CANADA: PROPERTY RIGHTS

Veterans' Land Act

Year act passed	*
1946	c.70
1947	
1948	
1949	c.6 ⁴ (1 Sess), c.41 (2 Sess)
1950	c.51, s.6 ⁷ , c.50, s.10 ⁶
1950-51	c.2, s.78
1951	c.7 (2 Sess), s.16 ¹²
1952	
R.S.C.	
1952	c.280
1952-53	
1953-54	c.66, c.65, s.6 ¹⁵
1955	
1956	
1956-57	
1957-58	
1958	
1959	c.37
1960	
1960-61	
1962	c.29
1962-63	
1963	
1964-65	c.19
1965	
1966-67	c.25, s.45 ²⁸
1967-68	
1968-69	c.22
1969-70	c.46 ⁴⁹
R.S.C.	
1970	v-4
R.S.C. 1970, Supplements	c.10, s.65 ⁵³ (2 Supp)
1970-71-72	
1972	
1973-74	
1974	c.3, s.1
1974-75-76	c.48, s.25 ⁷⁰
1976-77	

STATUTES OF CANADA: PROVISION OF PUBLIC SERVICES

	Canadian National Railways Act	Dominion Water Power Act	Electricity Inspection Act
Year act passed	*	*	*
1946			
1947			
1948		c.14	
1949			
1950			c.37, c.50, s.10 ⁶
1950-51			
1951			
1952	c.40		
R.S.C.			
1952		c.90	c.94
1952-53			
1953-54			
1955	c.29 ^a		
1956			
1956-57			
1957-58			
1958			
1959			
1960			
1960-61	c.28		
1962			
1962-63			
1963			
1964-65			
1965			
1966-67	c.25, s.45 ²⁸ , c.69, ss.77, 94 ³⁵	c.25, s.40 ²⁸ , c.69, s.94 ³⁵	
1967-68			
1968-69			c.28, s.105 ⁴³
1969-70			
R.S.C.			
1970	c-10	W-6	E-4
R.S.C. 1970, Supplements			c.6, s.1 (2 Supp)
1970-71-72			
1972			
1973-74			
1974			
1974-75-76			
1976-77			

STATUTES OF CANADA: PROVISION OF PUBLIC SERVICES

	Freight Rates Reduction Act	Gas Inspection Act	Government Harbours and Piers Act	Government Railways Act
Year act passed	1959	*	*	*
1946				
1947				
1948				
1949				
1950		c.39, c.50, s.10 ⁶	c.50, s.10 ⁶	c.50, s.10 ⁶
1950-51				
1951				
1952				
R.S.C. 1952		c.129	c.135	c.136
1952-53				
1953-54				
1955				
1956				
1956-57				
1957-58				
1958				
1959	c.27			
1960	c.42			
1960-61	c.29			
1962				
1962-63				
1963				
1964-65				
1965				
1966-67			c.69, s.94 ³⁵	
1967-68				
1968-69		c.28, s.105 ⁴³		c.28, s.105 ⁴³
1969-70				
R.S.C. 1970		G-2	G-9	G-11
R.S.C. 1970, Supplements				c.10, s.65 ⁵³ (2 Supp)
1970-71-72				
1972			c.17, s.2 ⁶⁴	
1973-74				
1974				
1974-75-76			c.19, s.2 ⁸⁴	
1976-77		c.55, s.4 ¹⁰¹		

STATUTES OF CANADA: PROVISION OF PUBLIC SERVICES

	National Harbours Board Act	Public Works Act
Year act passed	*	*
1946		
1947		
1948		
1949		
1950		
1950-51		
1951		c.33 (2 Sess), c.7, s.10 ¹²
1952		
R.S.C. 1952		c.228
1952-53		
1953-54		
1955		
1956		
1956-57		
1957-58		
1958		
1959		
1960		
1960-61		
1962		
1962-63		
1963	c.37	
1964-65		
1965		
1966-67		c.25, s.21 ²⁸
1967-68		
1968-69	c.28, s.105 ⁴³	c.28, s.105 ⁴³
1969-70	c.41, s.42 ⁴⁸	
R.S.C. 1970	N-8	P-38
R.S.C. 1970, Supplements	c.16, s.42 (1 Supp)	
1970-71-72		
1972		
1973-74		
1974		
1974-75-76		
1976-77	c.28, s.28 ⁹¹	c.28, s.36 ⁹¹

STATUTES OF CANADA: PROVISION OF PUBLIC SERVICES

Railway Act

Year act passed	*
1946	c.3 ¹
1947	c.70
1948	c.27, c.66 ³
1949	
1950	c.20
1950-51	
1951	c.22 (2 Sess), c.7, s.11 ¹²
1952	
R.S.C.	
1952	c.234
1952-53	
1953-54	
1955	c.41, c.55, s.2 ¹⁸
1956	
1956-57	
1957-58	
1958	c.40
1959	
1960	c.35
1960-61	c.54
1962	
1962-63	
1963	c.28, c.41, s.6 ²³
1964-65	
1965	
1966-67	c.25, s.45 ²⁸ , c.69, s.94 ³⁵ , c.84, s.3 ³⁶
1967-68	
1968-69	c.28, s.105 ⁴³ , c.52, s.94 ⁵
1969-70	c.20, c.44, s.10 ⁵² , c.70, s.33 ⁴⁹
R.S.C.	
1970	R-2
R.S.C. 1970, Supplements	c.10, s.33 ⁵⁶ , c.35, ss.1-3 (1 Supp), c.10, s.65 ⁵³ (2 Supp)
1970-71-72	
1972	
1973-74	
1974	c.12, s.22 ⁷¹
1974-75-76	c.49, s.18 ⁸⁵ , c.41, ss.1,2
1976-77	c.21, s.1, c.28, ss.37, 49 ⁹¹

STATUTES OF CANADA: PROVISION OF PUBLIC SERVICES

Shipping Act

Year act passed	*
1946	
1947	
1948	c.35
1949	c.6 ⁴ (1 Sess)
1950	c.26, c.50, s.10 ⁶
1950-51	
1951	
1952	
R.S.C.	
1952	c.29
1952-53	c.20
1953-54	
1955	
1956	c.34
1956-57	c.4
1957-58	
1958	
1959	
1960	c.40
1960-61	c.32
1962	
1962-63	
1963	
1964-65	c.39, c.22, s.8 ²⁷
1965	
1966-67	c.96, s.64 ³⁰
1967-68	c.25, ss.55, 56 ⁴¹
1968-69	c.28, s.105 ⁴³ⁿ , c.53
1969-70	c.35, c.51
R.S.C.	
1970	S-9
R.S.C. 1970, Supplements	c.38, ss.1-4 (1 Supp), c.10, s.65 ⁵³ (2 Supp), c.27, s.1-5
1970-71-72	
1972	
1973-74	
1974	
1974-75-76	c.48, s.25 ⁷²
1976-77	c.38, s.6 ¹⁰⁰ , c.28, s.40 ⁹¹ , c.52, s.128 ⁹⁴

STATUTES OF CANADA: RESEARCH

	Corporations and Labour Unions Returns Act	Department of Mines and Technical Surveys Act	Economic Council of Canada Act
Year act passed	1962	1949	1963
1946			
1947			
1948			
1949		c.17 (2 Sess)	
1950			
1950-51			
1951			
1952			
R.S.C. 1952		c.73	
1952-53			
1953-54			
1955			
1956			
1956-57			
1957-58			
1958			
1959			
1960			
1960-61			
1962	c.26		
1962-63			
1963			c.11
1964-65	c.43		
1965			
1966-67	c.25, s.45 ²⁸ , c.69, s.94 ³⁵	c.25, ss.31, 41 ²⁸	
1967-68	c.16, s.13 ³⁹ , c.25, s.57 ⁴¹		
1968-69			
1969-70			
R.S.C. 1970	C-31		E-1
R.S.C. 1970, Supplements			
1970-71-72			
1972			
1973-74			
1974			
1974-75-76			
1976-77			

STATUTES OF CANADA: RESEARCH

	National Research Council Act	Resources and Technical Surveys Act	Science Council of Canada Act
Year act passed	*	1966-67	1966-67
1946			
1947			
1948			
1949			
1950			
1950-51			
1951			
1952			
R.S.C.			
1952	c.239		
1952-53			
1953-54	c.42, c.40, s.15 ¹⁷		
1955			
1956			
1956-57			
1957-58			
1958			
1959			
1960			
1960-61			
1962			
1962-63			
1963			
1964-65			
1965			
1966-67	c.26	c.25, ss.31, 41 ²⁸	c.19
1967-68			
1968-69			c.28, s.70 ⁴³
1969-70			
R.S.C.			
1970	N-14	R-7	S-5
R.S.C. 1970, Supplements		c.14, ss.9-11 ⁵⁷ (2 Supp)	
1970-71-72			
1972			
1973-74			
1974			
1974-75-76			
1976-77	c.24, ss.50-61, s.74 ¹⁰³	c.24, ss.42-49, s.74 ¹⁰³	

STATUTES OF CANADA: RESEARCH

Statistics Act

Year act	
passed	*
1946	
1947	
1948	c.45 ^a
1949	
1950	
1950-51	
1951	
1952	
R.S.C.	
1952	c.257
1952-53	c.18
1953-54	
1955	
1956	
1956-57	
1957-58	
1958	
1959	
1960	
1960-61	
1962	
1962-63	
1963	
1964-65	
1965	
1966-67	
1967-68	
1968-69	
1969-70	
R.S.C.	
1970	S-16 ⁿ
R.S.C. 1970,	
Supplements	
1970-71-72	c.15
1972	
1973-74	
1974	
1974-75-76	c.33, s.264 ⁷⁸
1976-77	c.28, ss.41, 49(2) ⁹¹

STATUTES OF CANADA: SOCIAL ISSUES

		Dominion Forest Reserve and Parks Fisheries Act
Clean Air Act		
Year act passed	1970-71-72	*
1946		
1947		
1948		
1949		c.8, s.11 ⁵ , n (2 Sess) c.6 ⁴ (1 Sess)
1950		c.50, s.10 ¹³
1950-51		
1951		c.29, s.10 ¹³ (2 Sess)
1952		
R.S.C.		
1952		c.119
1952-53		
1953-54		
1955		
1956		
1956-57		
1957-58		
1958		
1959		
1960		
1960-61		c.23
1962		
1962-63		
1963		
1964-65		c.22, s.12 ²⁷
1965		
1966-67		
1967-68		
1968-69		c.28, s.99 ⁴³
1969-70		c.63
R.S.C.		
1970		F-14
R.S.C. 1970, Supplements		c.17, ss.1-9 (1 Supp), c.13, s.30 ⁵⁷ (2 Supp)
1970-71-72	c.47	
1972		
1973-74		
1974		
1974-75-76		c.48, s.25 ⁷²
1976-77		c.35, ss.1-20

STATUTES OF CANADA: SOCIAL ISSUES

	Environmental Contaminants Act	Explosives Act	Forestry Act	Forestry Development and Research Act
Year act passed	1974-75-76	1946	1949	1966-67
1946		c.7		
1947				
1948				
1949		c.6 ⁴ (1 Sess)	c.8 (2 Sess)	
1950		c.50, s.10 ⁶		
1950-51				
1951				
1952				
R.S.C. 1952		c.102	c.24	
1952-53				
1953-54		c.14		
1955				
1956				
1956-57				
1957-58				
1958				
1959				
1960			c.41, s.17 ²² , n	
1960-61				
1962				
1962-63				
1963				
1964-65				
1965				
1966-67		c.25, s.41 ²⁸		c.25, ss.26, 45 ²⁸
1967-68				
1968-69				c.28, s.105 ⁴³
1969-70				
R.S.C. 1970		E-15		F-30
R.S.C. 1970, Supplements				c.14, ss.30, 31 ⁵⁷ (2 Supp)
1970-71-72				
1972				
1973-74				
1974				
1974-75-76	c.72	c.60, ss.1-11		
1976-77				

STATUTES OF CANADA: SOCIAL ISSUES

	Water Act	Wildlife Act
Year act passed	1969-70	1973-74
1946		
1947		
1948		
1949		
1950		
1950-51		
1951		
1952		
R.S.C.		
1952		
1952-53		
1953-54		
1955		
1956		
1956-57		
1957-58		
1958		
1959		
1960		
1960-61		
1962		
1962-63		
1963		
1964-65		
1965		
1966-67		
1967-68		
1968-69		
1969-70	c. 52	
R.S.C.		
1970		
R.S.C. 1970, Supplements	c.5 (1 Supp), c.14, s.30 ⁵⁷ (2 Supp)	
1970-71-72		
1972		
1973-74		c.21
1974		
1974-75-76		
1976-77		

STATUTES OF CANADA: SPECIFIC MINERALS

	Atomic Energy Control Act	Emergency Gold Mining Assistance Act	Gold Export Act	Precious Metals Marking Act
Year act passed				
1946	1946	1947	*	*
1946	c.37			c.26 ^a
1947				
1948		c.15		
1949		c.20 (2 Sess)		
1950	c.51, s.14 ⁷ , c.50, s.10 ⁶			c.18
1950-51		c.50, s.10 ⁶		
1951		c.49 (1 Sess)		
1952		c.25		
R.S.C. 1952	c.11	c.95	c.131	c.215
1952-53		c.32		
1953-54	c.47, c.40, s.15 ¹⁷	c.26		
1955		c.19		c.22
1956		c.20		
1956-57				
1957-58				
1958		c.28		
1959				
1960		c.28		
1960-61				
1962				
1962-63				
1963		c.25		
1964-65				
1965				
1966-67	c.25, s.41 ²⁸	c.25, s.41 ²⁸		
1967-68				
1968-69				c.17 ^a
1969-70				
R.S.C. 1970	A-19	E-5	G-5	P-19
R.S.C. 1970, Supplements		c.7, ss.1-4 (2 Supp)		
1970-71-72		c.43, s.360, c.63, s.661		
1972				
1973-74		c.11, ss.1,2		
1974				
1974-75-76	c.33, s.263 ⁷⁸			
1976-77		c.54, s.74 ⁹³		

STATUTES OF CANADA: TAXATION

	Customs Tariff Act	Excess Profits Tax Act
Year act passed	*	*
1946	c.45	c.47
1947		c.32
1948	c.6, c.42	
1949	c.6 ⁴ (1 Sess), c.15 (2 Sess)	
1950	c.14, c.50, s.10 ⁶	
1950-51	c.4 ¹⁰	
1951	c.27 (1 Sess)	
1952	c.23	
R.S.C.		
1952	c.60	
1952-53	c.31	
1953-54	c.53	
1955	c.51	
1956	c.36	
1956-57	c.21	
1957-58		
1958	c.27	
1959	c.12	
1960	c.27	
1960-61	c.45	
1962		
1962-63		
1963	c.7, c.18 ²⁴ , c.35	
1964-65	c.7	
1965	c.17	
1966-67	c.38	
1967-68		
1968-69	c.10, s.37 ⁴⁶ , c.12, c.38, s.117 ⁴²	
1969-70	c.6, ss.1-12	
R.S.C.		
1970	C-41	
R.S.C. 1970, Supplements		
1970-71-72	c.61, ss.1-3	
1972		
1973-74	c.10, ss.1-4 ⁷⁰ , c.22, ss.1-3	
1974		
1974-75-76	c.6, c.23, c.70	
1976-77		

STATUTES OF CANADA: TAXATION

Excise Tax Act

Year act passed	1947
1946	
1947	c.60
1948	c.8, c.50
1949	c.6 ⁴ (1 Sess), c.21 (2 Sess)
1950	c.15
1950-51	c.8 ¹¹
1951	c.28 (1 Sess), c.18, s.13 ¹⁴ (2 Sess)
1952	c.27
R.S.C.	
1952	c.100
1952-53	c.35
1953-54	c.56
1955	c.53
1956	c.37
1956-57	c.26
1957-58	c.14
1958	c.30
1959	c.23
1960	c.30
1960-61	c.47
1962	
1962-63	c.6
1963	c.12
1964-65	
1965	c.2
1966-67	c.40, c.79, ss.1-4
1967-68	c.29
1968-69	
1969-70	c.6, s.13, c.7
R.S.C.	
1970	E-13
R.S.C. 1970, Supplements	c.10, s.65 ⁵³ (2 Supp)
1970-71-72	c.62, ss.1-4
1972	
1973-74	c.24, ss.1-5, c.53, s.36 ⁹ , c.12, ss.1-2 ⁷¹
1974	
1974-75-76	c.24, ss.1-23, c.62, ss.1-8
1976-77	

STATUTES OF CANADA: TAXATION

Income Tax Act

Year act passed	*
1946	
1947	
1948	c.52
1949	c.25 (2 Sess)
1950	c.40
1950-51	c.9 ⁹
1951	c.51 (1 Sess), c.7, s.23 ¹² (2 Sess)
1952	c.29
R.S.C.	
1952	c.148
1952-53	c.40
1953-54	c.57
1955	c.54, c.55, s.1 ¹⁸
1956	c.39
1956-57	c.29
1957-58	c.17
1958	c.32
1959	c.34, s.44, c.45
1960	c.43
1960-61	c.17, c.49
1962	
1962-63	c.8
1963	c.21, c.41, s.3 ²³
1964-65	c.13, c.25, s.7, c.54, s.19
1965	c.12, c.18
1966-67	c.25, s.45 ²⁸ , c.47, c.69, s.94 ³⁵ , c.82, ss.18, 19, c.84, s.3 ³⁵ , c.91, c.96, s.64, c.97
1967-68	c.38
1968-69	c.28, s.105 ⁴³ , c.33, c.44
1969-70	c.8
R.S.C.	
1970	I-4
R.S.C. 1970, Supplements	
1970-71-72	c.63, c.64, s.5
1972	c.8, s.34(8) ⁶ , c.9, ss.1-6
1973-74	c.14, ss.1-92, c.30, ss.1-29, c.44, s.23 ⁶⁷ , c.51, s.20 ⁶⁸ , c.49, s.18(3) ⁶⁶
1974	
1974-75-76	c.26, ss.3-142, c.87, s.47 ⁸⁵ , c.71, ss.1-14, c.106, s.1, c.50, s.48 ⁸⁷ , c.58, s.12 ⁸⁸ , c.88, s.8 ⁸⁹ , c.95, s.1390
1976-77	c.4, ss.18-84, 77, c.10, s.52 ⁹⁸

STATUTES OF CANADA: TAXATION

Provincial
Subsidies
ActYear act
passed

*

1946
1947
1948
1949
19501950-51
1951
1952R.S.C.
1952 c.2211952-53
1953-54
19551956
1956-57
1957-58
1958
1959
19601960-61
1962
1962-63
1963
1964-65
19651966-67
1967-68
1968-69
1969-70R.S.C.
1970 P-26R.S.C. 1970,
Supplements1970-71-72
1972
1973-74
1974
1974-75-76

1976-77

STATUTES OF CANADA: TRADE

Anti-Dumping Act		Canadian Commercial Corporation Act
Year act passed	1968-69	1946
1946		c.40
1947		c.51
1948		
1949		c.2 (1 Sess)
1950		c.51, s.15 ⁷
1950-51		
1951		
1952		
R.S.C. 1952		c.35
1952-53		
1953-54		
1955		
1956		
1956-57		
1957-58		
1958		
1959		
1960		
1960-61		
1962		
1962-63		
1963		
1964-65		
1965		
1966-67		
1967-68		
1968-69	c.10	
1969-70		
R.S.C. 1970	A-15	C-6
R.S.C. 1970, Supplements	c.1, ss.1-8, c.10, s.65 ⁵³ (2 Supp)	
1970-71-72	c.43, s.3(2) ⁶⁰ , c.63, s.4 ⁶¹	
1972		
1973-74		
1974		
1974-75-76		c.33, s.265 ⁷⁸
1976-77		

STATUTES OF CANADA: TRADE

	Customs Act	Customs Tariff Act	Export Act
Year act passed	*	(See Taxation)	*
1946			c.8
1947	c.4		
1948	c.41		
1949	c.6 ⁴ (1 Sess)		
1950	c.13, c.50, s.10 ⁶		c.50, s.10 ⁶
1950-51			
1951	c.26 (1 Sess)		
1952			
R.S.C.			
1952	c.58		c.103
1952-53			
1953-54	c.3		
1955	c.32		
1956			
1956-57			
1957-58			
1958	c.26		
1959			
1960			
1960-61			
1962	c.27		
1962-63			
1963			
1964-65	c.22, s.11 ²⁷		
1965	c.16		
1966-67			
1967-68			
1968-69	c.10, s.36 ⁴⁶ , c.18, c.28, s.105 ⁴³		
1969-70			
R.S.C.			
1970	c.40		E-16
R.S.C. 1970, Supplements	c.32, s.2 ⁵⁸ , c.10, s.65 ⁵³ (2 Supp)		
1970-71-72			
1972	c.17, s.2 ⁶⁴		
1973-74	c.39, s.1		
1974			
1974-75-76	c.5, ss.1-6, c.48, s.25 ⁷²		
1976-77	c.38, s.6 ¹⁰⁰		

STATUTES OF CANADA: TRADE

	Export and Import Permits Act	Export Credits Insurance Act
Year act passed	1947	*
1946		c.49
1947	c.17	
1948	c.16	c.17
1949	c.22 (2 Sess)	
1950	c.50, s.10 ⁶	c.51, s.9 ⁷ , c.50, s.10 ⁶
1950-51		
1951	c.15 (1 Sess)	
1952	c.7	
R.S.C.		
1952	c.104	c.105
1952-53	c.27 ^a	
1953-54		c.15
1955		
1956		
1956-57	c.7	c.8
1957-58	c.22, s.15(5) ²⁰	c.15
1958		
1959		c.24
1960	c.12	
1960-61		c.33
1962		c.14
1962-63		c.2
1963	c.4	
1964-65		c.18
1965		
1966-67	c.16	c.63
1967-68		
1968-69	c.19	c.28, s.105 ⁴³ , c.39, s.39 ⁴⁷
1969-70		
R.S.C.		
1970	E-17	
R.S.C. 1970, Supplements	c.29, s.3 ⁵⁹ , c.32, s.1 ⁵⁸ (2 Supp)	
1970-71-72		
1972		
1973-74		
1974	c.9, s.1-3	
1974-75-76		
1976-77		

STATUTES OF CANADA: TRADE

	Export Development Act	Tariff Board Act
Year act passed	1968-69	*
1946		c.70
1947		
1948		
1949		
1950		c.52
1950-51		
1951		
1952		c.32
R.S.C.		
1952		c.261
1952-53		
1953-54		
1955		c.55, s.3 ¹⁸
1956		c.15
1956-57		
1957-58		
1958		
1959		
1960		
1960-61		c.18
1962		
1962-63		
1963		c.41, s.8 ²³
1964-65		
1965		
1966-67		c.84, s.3 ³⁶
1967-68		
1968-69	c.39	c.10, s.38 ⁴⁶
1969-70		
R.S.C.		
1970	E-18	T-1
R.S.C. 1970, Supplements	c.8, ss.1-10 (2 Supp)	
1970-71-72	c.43, s.3(2) ⁶⁰ , c.63, s.4 ⁶¹	
1972		
1973-74	c.13, s.1-2	
1974		
1974-75-76	c.17, ss.1-14	
1976-77	c.17, ss.1-2, c.28, s.15 ⁹¹	c.28, s.43 ⁹¹

FOOTNOTES TO STATUTES OF CANADA

1. Appropriation Act, No. 3, 1946, S.C. 1946
2. Industrial Relations and Disputes Investigation Act, S.C. 1948
3. An Act to amend the Railway Act, the Exchequer Court Act and the Judges Act, 1946, S.C. 1948
4. Statute Law Amendment (Newfoundland) Act, S.C. 1949 (1 Sess)
5. Canada Forestry Act, S.C. 1949 (2 Sess)
6. Regulations Act, S.C. 1950
7. Statute Law Amendment Act S.C. 1950
8. Canadian Forces Act 1950, S.C. 1950-51
9. An Act respecting the appointment of auditors for National Railways, S.C. 1950-51
10. Defence Production Act, S.C. 1950-51
11. Appropriation Act No. 3, 1951, S.C. 1950-51
12. Canadian Forces Act, 1951, S.C. 1951 (2 Sess)
13. Whaling Convention Act, S.C. 1951 (2 Sess)
14. Old Age Security Act, S.C. 1951 (2 Sess)
15. Veteran's Benefit Act, S.C. 1953-54
16. Criminal Code, S.C. 1953-54
17. Public Servant's Inventions Act, S.C. 1953-54
18. An Act to amend the Income Tax Act, the Railway Act, and the Tariff Board Act in respect of salaries of certain public officials, S.C. 1950
19. Appropriation Act, S.C. 1956-57
20. An Act to provide for the Stabilization of the Prices of Agricultural Commodities, S.C. 1957-58
21. An Act for the Temporary Extension of Seasonal Benefit Periods under the Unemployment Insurance Act, S.C. 1958
22. Department of Forestry Act, S.C. 1960
23. An Act to amend the Canada Grain Act, the Financial Administration Act, the Income Tax Act, the International Boundary Waters Treaty Act, the National Energy Board Act, the Railway Act, the Salaries Act and the Tariff Board Act with respect to the salaries of certain public officials, S.C. 1963
24. An Act respecting an Order of His Excellency the Governor in Council entitled the surcharge on Imports Order, and to restore certain rates of customs duties and tariff benefits expressed to be withdrawn thereby, S.C. 1963
25. An Act to amend certain Acts Administered in the Department of Insurance, S.C. 1964-65
26. Appropriation Act No. 10, 1964, S.C. 1964-65
27. Territorial Sea and Fishing Zones Act, S.C. 1964-65
28. Government Organization Act, 1966, S.C. 1966-67
29. Appropriation Act, No. 4, 1966, S.C. 1966-67
30. Canadian Forces Reorganization Act, S.C. 1966-67

31. Appropriation Act No. 9, 1966, S.C. 1966-67
32. Provision for consolidation under the Revised Statutes of
 - a) Canada Labour (Standards) Code
 - b) Female Employees Equal Pay Act
 - c) Canada Fair Employment Practices Act, and
 - d) Industrial Relations and Disputes Investigation Act, S.C. 1966-67
33. Canada Assistance Plan, S.C. 1966-67
34. Federal-Provincial Fiscal Arrangements Act, S.C. 1966-67
35. National Transportation Act, S.C. 1966-67
36. Statutory Salaries Revision Act, 1967, S.C. 1966-67
37. Statute Law (Superannuation) Amendment Act, S.C. 1966-67
38. An Act to amend the Territorial Lands Act, the Land Titles Act and the Public Lands Grants Act, S.C. 1967-68
39. Department of Consumer and Corporate Affairs Act, S.C. 1967-68
40. Canada Manpower and Immigration Council Act, S.C. 1967-68
41. Broadcasting Act, S.C. 1967-68
42. Criminal Law Amendment Act, 1968-69, S.C. 1968-69
43. Government Organization Act, S.C. 1968-69
44. Regional Development Incentives Act, S.C. 1968-69
45. Atlantic Region Freight Assistance Act, S.C. 1968-69
46. Anti-Dumping Act, S.C. 1968-69
47. Export Development Act, S.C. 1968-69
48. Expropriation Act, S.C. 1969-70
49. Appropriation Act No. 3, 1970, S.C. 1969-70
50. An Act to amend the Canada Corporations Act and other statutory provisions related to the subject matter of certain of those amendments, S.C. 1969-70
51. Appropriation Act No. 1, 1970, S.C. 1969-70
52. Supreme Court Act, S.C. 1969-70, S.C. 1969-70
53. Federal Court Act, R.S.C. 1970 (2 Supp)
54. An Act to amend the Canadian and British Insurance Companies Act and other statutory provisions related to the subject matter of certain of those amendments, R.S.C. 1970 (1 Supp)
55. An Act to amend, in terms of the Revised Statutes of Canada, 1970, certain Acts amended by sections 107 to 112 of the Canada Grain Act, R.S.C. 1970 (2 Supp)
56. An Act to amend the Canada Corporations Act and other statutory provisions related to the subject-matter of certain of those amendments, R.S.C. 1970 (1 Supp)
57. Government Organization Act, 1970, R.S.C. 1970 (2 Supp)

58. An Act to amend, in terms of the Revised Statutes of Canada, 1970, certain Acts amended by sections 26 and 27 of the Textile and Clothing Board Act, R.S.C. 1970 (2 Supp) An Act to amend, in terms of the Revised Statutes of Canada, 1970, certain Acts amended by sections 28, 30 and 31 of the Statutory Instruments Act, R.S.C. 1970 (2 Supp)

59. An act to amend, in terms of the Revised Statutes of Canada, 1970, certain Acts amended by sections 28, 30 and 31 of the Statutory Instruments Act, R.S.C. 1970 (2 Supp)

60. An Act respecting the consolidation of the Income Tax Act in the printed Roll of the Revised Statutes of Canada, 1970, S.C. 1970-71-72

61. An Act to amend the Income Tax Act and to make certain provisions and alterations in the statute law related to or consequential upon the amendments to that Act, S.C. 1970-71-72

62. Unemployment Insurance Act, 1971, S.C. 1970-71-72

63. An Act to incorporate Unity Bank of Canada, S.C. 1972

64. Territorial Supreme Courts Act, S.C. 1972

65. Federal-Provincial Fiscal Arrangements Act, 1972, S.C. 1972

66. Residential Mortgage Financing Act, S.C. 1973-74

67. Family Allowances Act, 1973, S.C. 1973-74

68. Election Expenses Act, S.C. 1973-74

69. Oil Export Tax Act, S.C. 1973-74

70. An Act to amend the Farm Improvement Loans Act, the Small Businesses Loans Act and the Fisheries Improvement Loans Act, S.C. 1974

71. Railway Relocation and Crossing Act, S.C. 1974

72. An Act to amend the Judges Act and certain other Acts for related purposes and in respect of the reconstitution of the Supreme Courts of Newfoundland and Prince Edward Island, S.C. 1974-75-76

73. An Act to amend the Combines Investigation Act and the Bank Act and to repeal an Act to amend an Act to amend the Combines Investigation Act and the Criminal Code, S.C. 1974-75-76

74. An Act to incorporate the Canadian Commercial and Industrial Bank, S.C. 1974-75-76

75. An Act to incorporate the Northland Bank, S.C. 1974-75-76

76. Federal Business Development Bank Act, S.C. 1974-75-76

77. An Act to authorize federal trust companies and loan companies to increase the monetary limit of their borrowing power and to issue subordinated notes, S.C. 1974-75-76

78. Canadian Business Corporations Act, S.C. 1974-75-76

79. Petro-Canada Act, S.C. 1974-75-76

80. Statute Law (Status of Women) Amendment Act, 1974, S.C. 1974-75-76

81. An Act to amend the Senate and House of Commons Act, the Salaries Act and the Parliamentary Secretaries Act, S.C. 1974-75-76

82. An Act to amend the Unemployment Insurance Act, 1971, S.C. 1974-75-76

83. An Act to amend the Old Age Security Act, to repeal the Old Age Assistance Act and to amend other Acts in consequence thereof, S.C. 1974-75-76

84. An Act to revise references to the Court of Queen's Bench of the Province of Quebec, S.C. 1974-75-76

85. Canadian Radio-television and Telecommunications Commission Act, S.C. 1974-75-76

86. Western Grain Stabilization Act, S.C. 1974-75-76

87. Cultural Property Export and Import Act, S.C. 1974-75-76

88. An Act to amend the Old Age Security Act, to repeal the Old Age Assistance Act and to amend other acts in consequence thereof, S.C. 1974-75-76

89. An Act to repeal an Act respecting the Halifax Relief Commission and to authorize the continuation of pensions, grants or allowances paid by the Halifax Relief Commission, S.C. 1974-75-76

90. Compensation for Former Prisoners of War Act, S.C. 1974-75-76

91. Miscellaneous Statute Law Amendment Act, 1977, S.C. 1976-77

92. An Act to incorporate Continental Bank of Canada, S.C. 1976-77

93. Employment and Immigration Reorganization Act, S.C. 1976-77

94. Immigration Act, S.C. 1976-77

95. Unemployment Insurance Entitlements Adjustment Act, S.C. 1976-77

96. Government Expenditures Restraint Act, S.C. 1976-77

97. Canadian Human Rights Act, S.C. 1976-77

98. Federal-Provincial Fiscal Arrangements and Established Programs Financing Act, 1977, S.C. 1976-77

99. Auditor General Act, S.C. 1976-77

100. An Act to amend the Currency and Exchange Act and to amend other Acts in consequence thereof, S.C. 1976-77

101. Statute Law (Metric Conversion) Amendment Act, 1976, S.C. 1976-77

102. Criminal Law Amendment Act, 1977, S.C. 1976-77
Government Organization (Scientific Activities) Act, 1976, S.C. 1976-77

THE MINING TAX ACT OF ONTARIO, 1945-77
SCHEDULE OF MAJOR CHANGES

The subsections of the Act in which the major changes occurred are:

- i) the tax on profits;
- ii) the ascertainment of profits including allowable deductions;
- iii) the allowances and deductions not permitted.

To simplify this account of the changes in the Act, where a clause, or part thereof, is in brackets it is not the complete wording in the Act. Also, unless otherwise indicated the enactment refers to the Statutes of Ontario.

PROFIT TAX

1947, c.67, s.2(1)

Every mine, the annual profits of which exceed \$10,000, shall be liable for and the owner, manager, holder, lessee, tenant, occupier and operator of the same shall pay an annual tax of,

- a) six percent on the excess of annual profits above \$10,000 and up to \$1,000,000;
- b) eight percent on the excess of annual profits above \$1,000,000 and up to \$5,000,000; and
- c) nine percent on the excess of annual profits above \$5,000,000.

R.S.O. 1950, c.237, s.4(1)

(Same as 1947 amendment.)

1957, c.72, s.1(1)

(Clauses b and c of R.S.O. 1950, c.237, s.4(1) are amended to:)

- b) eleven percent on the excess of annual profits above \$1,000,000 and up to \$5,000,000; and
- c) twelve percent on the excess of annual profits above \$5,000,000.

1958, c.60, s.4(1)

(R.S.O. 1950, c.237, s.4(1) as amended by 1957, c.72, s.1(1) is further amended as follows:)

1) every mine, the profit of which exceeds \$10,000 in a taxation year, is liable for and the owner, manager, holder, lessee, tenant, occupier and operator thereof shall pay a tax of,

- a) 6 percent on the excess of profit above \$10,000 and up to \$1,000,000;
- b) 11 percent on the excess of profit above \$1,000,000 and up to \$5,000,000; and
- c) 12 percent on the excess of profit above \$5,000,000.

R.S.O. 1960, c.242, s.3(1)
 (Same as 1958 amendment.)

1968-69, c.69, s.2(1)

(R.S.O. 1960, c.242, s.3(1) is repealed and the following substituted therefor:)

- 1) every mine, whose profit, as determined under this section, exceeds \$50,000 in a taxation year, is liable for and the owner, manager, holder, lessee, tenant, occupier or operator of the mine shall pay a tax of 15 percent on the total profit of the mine in the taxation year, as determined under this section.

R.S.O. 1970, c.275, s.3(1)

(Same as 1968-69 amendment.)

1972, c.140, s.3(1)

(Same as R.S.O. 1970, c.275 s.3(1).)

- 1) every mine, the profit of which, as determined under this section, exceeds \$50,000 in a taxation year, is liable for, and the owner, manager, holder, lessee, tenant, occupier or operator of the mine shall pay, a tax of 15 percent on the total profit of the mine, as determined under this section for the taxation year.

1974, c.132, s.2(1)

(1972, c.140, s.3(1), is repealed and the following substituted therefor:)

- 1) every mine, the profit of which as determined under this section, exceeds \$100,000 in a taxation year, is liable for and the owner, manager, holder, lessee, tenant, occupier or operator of the mine shall pay a tax of:

- a) 15 percent on the excess of profit above \$100,000 and up to \$1,000,000; and
- b) 20 percent on the excess of profit above \$1,000,000 and up to \$10,000,000; and
- c) 25 percent on the excess of profit above \$10,000,000 and up to \$20,000,000; and
- d) 30 percent on the excess of profit above \$20,000,000 and up to \$30,000,000; and
- e) 35 percent on the excess of profit above \$30,000,000 and up to \$40,000,000; and
- f) 40 percent on the excess of profit above \$40,000,000.

A summary of changes in the Profit Tax Schedule, between 1945 and 1977, follows.

Summary of Changes in the Profit Tax Schedule,
1945-77

Year, Statute	Profit Bracket	Percent Tax
1947, c.67, s.2(1)	less than 10,000 \$10,000 - \$1 million \$1 - \$5 million above \$5 million	0 6 8 9
1957, c.72, s.1(1)	less than \$10,000 \$10,000 - \$1 million \$1 - \$5 million above \$5 million	0 6 11 12
1968-69, c.69, s.2(1)	exceeding \$50,000	15
1974, c.132, s.2(1)	less than \$100,000 \$100,000 - \$1 million \$1 - \$10 million \$10 - \$20 million \$20 - \$30 million \$30 - \$40 million above \$40 million	0 15 20 25 30 35 40

ASCERTAINMENT OF PROFITS

R.S.O. 1950, c.237, s.4(3)

The annual profits shall be the difference between the gross receipts from the year's output of the mine and the following expenses, payments, allowances or deduction:

- a) the cost of transportation of any output sold if paid by the mine owner;
- b) the working expenses of the mine including salaries and wages;
- c) the cost of supplying power and light, and of hire of horses used in the mining operation or in handling the ore or mineral;
- d) the cost-price of food and provisions for all employees;
- e) the cost-price of explosives, fuel and any other supplies necessarily consumed in the mining operations;
- f) any outlay incurred in safeguarding the mine or mineral product;
- g) the cost of insurance upon the mining plant, machinery, equipment and buildings used in connection with the mining operations;
- h) an allowance for annual depreciation;
- i) the cost of work done for the purpose of testing for ore or mineral;
- j) donations actually made for charitable, educational or patriotic purposes.

1955, c.46, s.2(2)

(Clauses h and i of 1950, c.237, s.4(3) are repealed and the following substituted therefor:)

- h) an allowance for annual depreciation of not less than 5 percent and not more than 15 percent for any calendar year of the value, at the commencement of output, of the usable plant, machinery, equipment and buildings, exclusive of any portion of the plant, machinery, equipment and buildings pertaining to processing, together with the cost of additions thereto or replacements thereof, until the full value or cost thereof is depreciated, subject to the following conditions:
 - i) that the value or cost of such plant, machinery, equipment and buildings, or the additions thereto or replacements thereof, is subject to appraisal by the mine assessor;
 - ii) that, where a portion of such plant, machinery, equipment and buildings becomes unusable, or is sold or otherwise disposed of before the full value or cost thereof is depreciated, the allowance for depreciation thereof ceases at the end of the year in which it became unusable, was sold or otherwise disposed of, and
 - iii) that the allowance for depreciation of the cost of additions to, or replacements of such plant, machinery, equipment and buildings does not commence until the year following the taking into use thereof;
- i) subject to the approval of the mine assessor, the expenditures for actual exploration and development work done in Ontario where the work has as its object the finding, testing, or opening up of deposits of metalliferous ore or other solid mineral substances on the following conditions:
 - i) that such expenditures do not include moneys paid in the purchases of, or in acquiring an option to purchase, or in acquiring the right to mine, or an option on the right to mine, such deposits;
 - ii) that such expenditures are made or borne by the person liable for taxation upon the mine under this Act, and;
 - iii) that separate accounts of such expenditures are kept and furnished in reasonable detail with the annual statement required under section 7.

1958, c.60, s.4(2)

(R.S.O. 1950, c.237, s.4(3) as amended by 1955, c.46, s.2(2) and 1957, c.72, s.1(3) is repealed and the following substituted therefor:)

3) the profit for a taxation year is the difference between;

- a) the amount of the gross receipts from the output of the mine during the taxation year; or
- b) in case the ore, mineral or mineral bearing substance or any part thereof is not sold but is treated by or for the owner . . . The amount of the actual market value of the output at the pit's mouth; or
- c) if there is no means of ascertaining the actual market value of the output at the pit's mouth, the amount at which the mine assessor appraises such output,

and the following expenses, payments, allowances or deductions:

- d) the cost of transportation of any output . . .
- e) the proper working expenses of the mine . . .
- f) the cost of power, light and transportation . . .
- g) the net cost of food and provisions supplied to employees of the mine;
- h) the cost of explosives, fuel and any other supplies . . .
- i) the proper outlay incurred in safeguarding or protecting the mine or mineral product;
- j) the cost of proper insurance upon the output . . . and upon the mining plant, machinery, equipment and buildings used . . .
- k) an allowance for depreciation of not less than 5 percent per annum and not more than 15 percent per annum . . .
- l) . . . at least 15 percent of the expenditure incurred, . . . for actual exploration and development work done in Ontario . . .
- m) donations actually made for charitable, educational or patriotic purposes that are approved by the mine assessor.

R.S.O. 1960, c.242, s.3(3)
(As amended in 1958, c.60, s.4(3).)

1968-69, c.69, s.2(3)
(The following allowable deduction is added to R.S.O. 1960, c.242, s.3(3):)

n) an allowance for the cost of development of the mine of 10 percent per annum of the capitalized cost of development, provided,

- i) that such a mine came into production after the 1st day of January, 1965;
- ii) that the ore taken from the mine is beneficiated, at least to the smelter stage, in Canada;

iii) that it is assumed that 10 percent of the cost of such development has been written off for each taxation year of production prior to the first taxation year in which the ore or part thereof is or has been treated to at least the smelter stage in Canada or prior to the taxation year ending in the year 1969, whichever is the later, and;

iv) that if any portion of the ore has been or will be smelted outside Canada, then only that proportion of the annual allowance for the cost of development work that the selling value of the product of the ore treated to at least the smelter stage in Canada bears to the selling value of all products of the mine will be permitted as a deduction.

R.S.O. 1970, c.275, s.3(3)
(As amended 1968-69, c.69, s.2(3).)

1972, The Mining Tax Act, 1972, c.140, s.3(3)
(As R.S.O. 1970, c.275, s.3(3).)

1974, c.132, s.2(3)
(Clauses b and c of The Mining Tax Act, 1972 are amended to the following:)

b) where the mineral substances or a part thereof are not sold as such, the amount of the actual market value at the pit's mouth of the mineral substances raised, taken or gained from the mine that are fed into a treatment plant at any mill, smelter or refinery and the product thereof is sold in the taxation year; or

c) if there is no means of ascertaining the actual market value at the pit's mouth of the mineral substances referred to in clause b, the amount at which the mine assessor appraises the value of such mineral substances, provided that the mine assessor appraising such value shall deduct;

i) the processing costs incurred as prescribed or determined by the regulations, and

ii) an allowance for profit in respect of processing at a rate or rates prescribed by the regulations or determined by the mine assessor, from the proceeds of the processed mineral substances sold during the taxation year;

s.2(5)
(Clause d of the allowable deductions is repealed and the following substituted:)

d) the expenses incurred in respect of scientific research conducted in Canada and related to mining operations in Ontario.

s.2(6)

(Clause l of the allowable deductions is repealed and the following substituted therefor:)

1) notwithstanding clause h, an allowance for depreciation in each taxation year not exceeding 30 percent of the cost to the operator of the mining plant, machinery, equipment and buildings . . .

s.2(7)

(Clause n of the allowable deductions is repealed and the following substituted therefor:)

n) notwithstanding anything in this subsection, at least 15 percent and up to 100 percent of,

- i) the exploration and development expenditures incurred in Ontario . . . with the object of finding, testing or opening up deposits of mineral substances, and
- ii) the exploration and development expenditures, incurred in Ontario on and after the date of commencement of production with the object of finding, testing or opening up deposits of mineral substances,

if the following conditions are met:

(same as in clause l of The Mining Tax Act, 1972.)

ALLOWANCES AND DEDUCTIONS NOT PERMITTED

R.S.O. 1950, c.237, s.4(4)

No allowance or deduction shall be made for cost of plant, machinery, equipment or buildings, nor for capital invested, nor for interest or dividend upon capital, or stock or investment, nor for depreciation in the value of the mine, mining land or mining property by reason of exhaustion or partial exhaustion of the ore or mineral, but this shall not restrict the generality of anything hereinbefore in this section contained.

1951-52, c.60, s.2

(R.S.O. 1950, c.237, s.4(4) is repealed and the following substituted therefor:)

4) No allowance or deduction shall be made in respect of,

- a) cost of plant, machinery, equipment or buildings;
- b) capital invested, or interest or dividend upon capital or stock or investment;

- c) depreciation in the value of the mine, mining land or mining property by reason of exhaustion or partial exhaustion of the ore or mineral;
- d) royalties paid for or in respect of the output of a mine situated on lands not the property of the Crown.

1955, c.46, s.2(3)

(Clause a of the non-allowable deductions in the 1951-52, c.60, s.2 amendment is repealed and the following substituted therefor:)

a) cost of plant, machinery, equipment or buildings except as provided in subsection 3.

1955, c.46, s.2(4)

(The following clause e is added to the non-allowable deductions:)

e) cost of development of the mine liable for taxation under this Act prior to the commencement of output therefrom.

R.S.O. 1960, c.242, s.3(4)

(As amended in 1951-52 and 1955.)

No allowance or deduction shall be made in respect of,

- a) cost of plant, machinery, equipment or buildings except as provided in subsection 3;
- b) capital invested, or interest or dividend upon capital or stock or investment;
- c) depreciation in the value of the mine, mining land or mining property by reason of exhaustion or partial exhaustion of the ore or mineral;
- d) royalties paid for or in respect of the output of a mine situated on lands not the property of the Crown; and
- e) cost of development of the mine liable for taxation under this Act before the commencement of output therefrom.

1968-69, c.69, s.2(5)

(Clause e of the non-allowable deductions is amended as follows:)

e) cost of development of the mine liable for taxation under this Act before the commencement of output therefrom, except as provided in clause n of subsection 3.

R.S.O. 1970, c.275, s.3(5)

(Same as R.S.O. 1960, c.2452, s.3(4) with 1968-69 amendment.)

1974, c.132, s.2(8)

(Clause e of the non-allowable deductions is repealed.)



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